
V. ENVIRONMENTAL IMPACT ANALYSIS

A. PROJECT IMPACTS FOUND TO BE LESS THAN SIGNIFICANT

Section 15128 of the CEQA Guidelines states:

“An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. Such a statement may be contained in an attached copy of an Initial Study.”

An Initial Study was prepared for the proposed project (see Appendix A of this Draft SEIR). The detailed analysis contained in the Initial Study determined that implementation of the proposed project would not result in significant environmental project-specific impacts to the topics listed below and therefore, the issues are not discussed in detail in Sections V.B through V.G of this SEIR.

- Agriculture and Forestry Resources
- Air Quality
- Cultural Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Tribal Cultural Resources
- Utilities and Service Systems

The Initial Study also determined certain sub issues from the topics of Biological Resources, Geology and Soils, Hydrology and Water Quality, Noise, and Transportation and Traffic would not have a significant project-specific environmental impact. Therefore, these issues are also discussed below. Cumulative impacts associated with implementation of the proposed project in conjunction with various cumulative projects listed in Table III-2 (Cumulative Projects) are also addressed below.

Agricultural and Forestry Resources

The project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. The Farmland Mapping and Monitoring Program (FMMP) designates the site as “Urban and Built-Up Land”.¹ Therefore, the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses. No impact would result and no further analysis of this issue is required.

¹ California Division of Land Resource Protection, *Farmland Mapping and Monitoring Program. San Mateo County Important Farmland 2008.* <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2008/smt08.pdf>, Accessed November 8, 2010.

The project would not conflict with existing zoning for agricultural use, or a Williamson Act Contract. The project site is zoned P-D District with an HPD overlay. The project site is not under Williamson Act Contract. No impact would result and no further analysis of this issue is required.

The project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)). The General Plan designation for approximately 7.6 acres of the westerly portion of the project site is Open Space Residential and the remaining 3.6 acres has a General Plan designation of Low-Density Residential.² The project site is zoned P-D District with an HPD overlay. Therefore, no conflict with or re-zoning of forestland, timberland, or timberland production would result from project implementation. No impact would result and no further analysis of this issue is required.

The project would not result in the loss of forest land or conversion of forest land to non-forest use. No forest land is present within the project site. No impact would result and no further analysis of this issue is required.

The project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use. No agriculture or forest land uses are located on or in close proximity to the project site. No impact would result and no further analysis of this issue is required.

CUMULATIVE

The geographic scope for cumulative impacts related to agricultural resources includes projects within agricultural land within Pacifica and beyond (Table III-1). There is no Important Farmland or Williamson Act land within the City of Pacifica.^{3,4} The cumulative projects and proposed project would not be located on land used or zoned for agriculture. Therefore, the cumulative scenario would have no impact on agriculture. The geographic scope for cumulative impacts related to forestry resources would include projects within forest land or timberland within Pacifica and beyond. The project site is zoned as both Open Space Residential and Low Density Residential and therefore the project does not contribute to a cumulative conversion or

² City of Pacifica General Plan. East Fairway Park-Valleamar Land Use Map. <http://www.cityofpacifica.org/civica/filebank/blobdload.asp?BlobID=7044>. Accessed: September 9, 2015.

³ California Department of Conservation. Division of Land Resource Protection. Farmland Mapping and Monitoring Program. San Mateo County Important Farmland. 2014.

⁴ California Department of Conservation. Division of Land Resource Protection. Farmland Mapping and Monitoring Program. San Mateo County Williamson Act Land FY 2006/2007

rezoning of forestland or timberland. Therefore, the cumulative scenario would have no impact on forest land or timberland.

Air Quality

The project would not conflict with or obstruct implementation of the applicable air quality plan. A significant impact may occur if the proposed project is not consistent with the applicable air quality plan. In the case of projects proposed within the Bay Area, the applicable plan is the Air Quality Management Plan (AQMP) that is prepared by BAAQMD. The BAAQMD is the agency principally responsible for comprehensive air pollution control in the Basin. To that end, the BAAQMD, a regional agency, works directly with the Association of Bay Area Governments (ABAG), county transportation commissions, local governments, and cooperates actively with all State and federal government agencies. BAAQMD develops rules and regulations, establishes permitting requirements, inspects emissions sources, and enforces such measures through educational programs or fines, when necessary.

BAAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources. It has responded to this requirement by preparing a series of AQMPs. Bay Area plans are prepared with the cooperation of the Metropolitan Transportation Commission (MTC), and the Association of Bay Area Governments (ABAG). Currently, there are three plans for the Bay Area. These are:

- The *Ozone Attainment Plan for the 1-Hour National Ozone Standard* (ABAG, 2001) developed to meet Federal ozone air quality planning requirements;
- The *Bay Area 2010 Clean Air Plan* (BAAQMD,2010) developed to meet planning requirements related to the State ozone standard; and
- The *1996 Carbon Monoxide Redesignation Request and Maintenance Plan (Updated 2004) for Ten Federal Planning Areas*, developed by the air districts with jurisdiction over the ten planning areas including the BAAQMD to ensure continued attainment of the Federal carbon monoxide standard. In June 1998, the EPA approved this plan and designated the ten areas as attainment. The maintenance plan was revised in October 1998. On July 22, 2004, ARB approved an update to the plan that shows how the ten areas will maintain the standard through 2018, revises emission estimates, and establishes new on-road motor vehicle emission budgets for transportation conformity purposes.

The Bay Area 2001 Ozone Attainment Plan was prepared as a proposed revision to the Bay Area part of California's plan to achieve the national ozone standard. The plan was prepared in response to US EPA's partial approval and partial disapproval of the Bay Area's 1999 Ozone Attainment Plan and finding of failure to attain the national ambient air quality standard for ozone. The Revised Plan was adopted by the Boards of the co-lead agencies and approved by the ARB in 2001. On July 7, 2003, EPA signed a rulemaking proposing to approve the Plan. EPA also made an interim final determination that the Plan corrects deficiencies identified in the

1999 Plan. However, in April 2004, US EPA made a final finding that the Bay Area has attained the national 1-hour ozone standard. Because of this finding, the previous planning commitments in the 2001 Ozone Attainment Plan are no longer required. The region must submit to EPA a redesignation request and a maintenance plan to show that the region will continue to meet the 1-hour ozone standard. The recent designation of the Bay Area as nonattainment for the Federal 8-hour ozone standard now triggers the need for an attainment plan.

For State air quality planning purposes, the Bay Area is classified as a marginal non-attainment area for the national 8-hour ozone standard. The serious classification triggers various plan submittal requirements and transportation performance standards. One such requirement is that the Bay Area update the Clean Air Plan every three years to reflect progress in meeting the air quality standards and to incorporate new information regarding the feasibility of control measures and new emission inventory data. The Bay Area's record of progress in implementing previous measures must also be reviewed. The most recent revision to the Clean Air Plan was completed in 2010. The 2010 Clean Air Plan was developed as a multi-pollutant plan - an integrated control strategy to reduce ozone, particulate matter (PM), toxic air contaminants, and greenhouse gases.

Projects that are consistent with the projections of employment and population forecasts identified by ABAG are considered consistent with the Plans growth projections, since the Growth Management Chapter forms the basis of the land use and transportation control portions of the Plan. The Plan also assumes that general development projects will include feasible strategies (i.e., mitigation measures) to reduce emissions generated during construction and operation.

The proposed project consists of 24 condominium units in 12 duplex buildings. New residential uses would increase the City population. Using an existing average household size of 2.728, the proposed project would be expected to accommodate approximately 65 (2.728×24) residents. According to ABAG, by 2020, the City's projected population would be 40,600. Assuming that all residents generated by the proposed project are new to the City, they would make up 0.0016 percent of the baseline population (2015) and 0.0016 percent of the projected population for the year 2020. Because the proposed project would not exceed the City's population projections, impacts would be less than significant.

The project would not violate any air quality standard or contribute substantially to an existing or project air quality violation. The proposed project would involve the construction of 24 condominium units in 12 duplex buildings and associated amenities in the westernmost two acres of the proposed project site. While the proposed project includes five fewer residential units and a smaller development footprint compared to the 29-unit project approved in 2007, during the construction phase of development of the proposed project, on-site stationary sources, heavy-duty construction vehicles, construction worker vehicles, and energy use would generate emissions. In addition to construction vehicle emissions, fugitive dust would also be generated during grading and construction activities. Dust is generated when

grading equipment breaks down surface materials. The resulting dust, which includes PM₁₀, is subsequently entrained into the air by wind and vehicle tires. Although much of this airborne dust would settle out on or near the project site, smaller particles would remain in the atmosphere, increasing existing particulate levels within the surrounding area. Sensitive receptors that could be affected by construction include the existing residential areas near the project site.

Construction Emissions

The grading phase of the project would require the import of 10,100 cubic yards (cy) of soil to the project site. While the source of the fill soil to be trucked to the project site is not known at this time, the travel route is assumed to include State Highway 1 to Fassler Avenue and then to the project site. The grading phase of the project is anticipated to take approximately three months. Import of 10,100 cy of soil over the three months would require approximately 9 to 17 (one-way) soil haul truck trips per day depending the size of the truck (i.e., approximately 17 one-way truck trips per day for a 10-cy truck and approximately 9 one-way truck trips per day for a 20-cy truck. As such, impacts related to toxic air contaminant emissions during the soil hauling phase are considered less than significant and no further analysis is necessary.

According to the 2010 BAAQMD CEQA Guidelines (Updated May 2011), PM₁₀ is the pollutant of greatest concern with respect to construction activities. Construction emissions of PM₁₀ can vary greatly depending upon the level of activity, construction equipment, local soils, and weather conditions, among other factors. As a result, the BAAQMD CEQA Guidelines specifies, “[t]he District’s approach to CEQA analyses of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions.” Therefore, the determination of significance with respect to construction emissions should be based on a consideration of the control measures to be implemented. If all the applicable control measures for PM₁₀ indicated in the BAAQMD CEQA Guidelines would be implemented, then air pollutant emissions from construction activities would be considered less than significant. If a project would not implement all applicable control measures, construction emissions would be considered a significant impact. While BAAQMD does not implement specific thresholds for construction emissions, without implementation of specific dust control measures, impacts related to construction emissions would be significant. Therefore, as recommended by BAAQMD, the following mitigation measure would be required during construction activities.⁵

Mitigation Measure AIR-1: Construction Emission Control Measures

- Water all active construction areas at least twice daily.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.

⁵ Bay Area Air Quality Management District, *CEQA Air Quality Handbook*, December 1999.

- Pave, apply water three times daily, or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at the construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at the construction sites.
- Sweep public streets adjacent to construction sites daily (with water sweepers) if visible soil material is carried onto the streets.

With the implementation of this mitigation measure, impacts would be less than significant and no further analysis of this issue is required.

Operational Emissions

The BAAQMD recommends that individual project's impacts involving direct and/or indirect operational emissions that exceed the following thresholds be considered significant:

- 80 pounds per day (ppd) of ROG
- 80 ppd of NO_x
- 80 ppd of PM₁₀

Direct emissions are those that are emitted on a site and include stationary sources and on-site mobile equipment. Examples of land uses and activities that generate direct emissions are industrial operations and sources subject to an operating permit by the BAAQMD. Indirect emissions come from mobile sources that access the project site but generally emit off-site. For many types of land use development projects, the principal sources of air pollutant emissions are the motor vehicle trips generated by the project.

Operational emissions associated with the ultimate development and operation of the proposed project would result primarily from increased vehicular trips to and from the residential development. Other sources of emissions associated with the project would include area source emissions, such as the use of natural gas for water heaters and cooking appliances. The average daily indirect and direct emissions associated with the previously proposed 34-unit project were compared with BAAQMD project-specific recommended thresholds of significance for the sources of pollutants. As shown in the 2007 FEIR, the operation of the project would not have generated average daily direct and indirect emissions of ROG, NO_x, or PM₁₀ that would exceed BAAQMD-recommended thresholds. These BAAQMD thresholds still apply today. Therefore, this smaller, ten units fewer, project would not have significant regional emissions and would be less than significant.

Operational Toxic Air Contaminants

Diesel particulate emissions, a known toxic air contaminant, would occur from trucks picking up garbage and recyclable materials, and making deliveries to the project site. Toxic or carcinogenic air pollutants are not expected to occur in any meaningful amounts in conjunction

with operation of the proposed land uses at the project site. Only small quantities of common forms of hazardous or toxic substances, such as cleaning agents, which are typically used or stored in conjunction with residential uses, would be present. Most uses of such substances would occur indoors. Based on the common uses expected on the site, any emission would be minor and impacts are considered less than significant. No further analysis is necessary.

The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). A significant impact may occur if a project would add a considerable cumulative contribution to federal or state non-attainment pollutant. For State air quality planning purposes, the Bay Area is classified as a marginal non-attainment area for the national 8-hour ozone standard.⁶ With regard to determining the significance of the proposed project contribution, the BAAQMD neither recommends quantified analyses of construction and/or operational emissions from multiple development projects nor provides methodologies or thresholds of significance to be used to assess the cumulative emissions generated by multiple cumulative projects. Instead, the BAAQMD recommends that a project's potential contribution to cumulative impacts should be assessed utilizing the same significance criteria as those for project specific impacts.⁷ Therefore, this analysis assumes that individual development projects that generate construction or operational emissions that exceed the BAAQMD recommended daily thresholds for project-specific impacts would also cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in non-attainment.

As discussed above, daily emissions associated with project development and operation of the proposed project would generate operational emissions that do not exceed the BAAQMD's recommended thresholds. The construction-related and operational emissions associated with the proposed project would, therefore, not be cumulatively considerable. Impacts are less than significant and no further analysis is required.

The project would not expose sensitive receptors to substantial pollutant concentrations. The proposed project includes ten fewer residential units and a smaller development footprint compared to the originally proposed 34-unit project and five fewer units and a smaller development footprint than the 29-unit project version approved in 2007. The 2007 FEIR analyzed the potential for the project to impact sensitive receptors by utilizing localized Carbon Monoxide (CO) concentrations to determine pollutant concentration potential. Sensitive receptors for the project area are the surrounding residential uses and the primary source of pollutants from the project is motor vehicles. The 2007 analysis concluded that future CO

⁶ Bay Area Air Quality Management District. 2015. *Air Quality Standards and Attainment Status*. Available at: <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status>.

⁷ Bay Area Air Quality Management District, *CEQA Air Quality Handbook*, December 1999.

concentrations near the study intersections would not exceed national or State ambient air quality standards with the construction and operation of the proposed project. Therefore, CO hotspots would not occur near these intersections in the future with construction and operation of the proposed project. Furthermore, impacts related to local CO concentrations under the current project would be less than significant as it further reduces the original project's impact potential. As the pollutant concentration levels for the study areas around the project site would not exceed BAAQMD standards, sensitive receptors in adjacent residential neighborhoods would not be exposed to substantial pollutant concentrations and no further analysis is required.

The project would not create objectionable odors affecting a substantial number of people. According to the BAAQMD CEQA Guidelines, the types of projects that commonly result in odor impacts include: wastewater treatment plant, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing, fiberglass manufacturing, auto body shops, rendering plants, and coffee roasters.⁸ The proposed project does not include any of these uses and would not create objectionable odors that would affect a substantial number of people. Therefore, project impacts related to odors would be less than significant and no further analysis of this issue is required.

CUMULATIVE

The geographic scope for cumulative impacts analysis related to air quality includes projects within Pacifica for local impacts and projects within the Air Basin (Table III-1). Development of the project in combination with the cumulative projects listed in Table III-2 (Cumulative Projects) and beyond has the potential to have a cumulative impact related to air quality. Because the proposed project would not individually have a significant air quality impact, BAAQMD requires that a determination of cumulative impacts be based on an evaluation of the consistency of the proposed project with the local general plan and of the general plan with the Clean Air Plan.⁹ If a project is proposed in a city or county with a general plan that is consistent with the Clean Air Plan, and the project is consistent with that general plan, the project would not have a significant cumulative impact.¹⁰ If the city or county general plan is not consistent with the Clean Air Plan, or the project is not consistent with the general plan, quantitative analysis is required to determine whether the impact is significant.

The City's 1980 General Plan did not address compliance with a Clean Air Plan, as there was no applicable Clean Air Plan at that time. However, the General Plan does include policies for including traffic reduction and energy-saving building requirements into new development, which are consistent with those policies of the Clean Air Plan.¹¹ Furthermore, as discussed above,

⁸ *Ibid.*

⁹ *Bay Area Air Quality Management District, CEQA Air Quality Handbook, December 1999.*

¹⁰ *Ibid.*

¹¹ *City of Pacifica, 1980. General Plan.*
<http://www.cityofpacific.org/civicax/filebank/blobdload.aspx?BlobID=10848>

projects that are consistent with the projections of employment and population forecasts identified by ABAG are considered consistent with the Clean Air Plan's growth projections, since the Growth Management Chapter forms the basis of the land use and transportation control portions of the Plan. The proposed project is consistent with the Clean Air Plan's population projections and the General Plan's population projections. Therefore, the cumulative air quality impacts associated with the implementation of the project would be less than significant based on the threshold cited above.

Biological Resources

The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The project site is not located within a Habitat Conservation Plan, Natural Community Conservation Plan, or any other habitat plan. Therefore, development of the proposed project would not conflict with any habitat conservation plan. Thus, no further analysis of the issue is required.

CUMULATIVE

The geographic scope for cumulative impacts related to biological resources includes projects within Pacifica and beyond (Table III-1). Development of the project in combination with the cumulative projects listed in Table III-2 (Cumulative Projects) has the potential to have a cumulative impact related to biological resources. A significant cumulative impact may occur if the cumulative projects and the project would have a considerable impact by conflicting with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The cumulative project sites and proposed project site are not located within a Habitat Conservation Plan, Natural Community Conservation Plan, or any other habitat plan. Therefore, the cumulative projects and proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Cumulative impacts would therefore be less than significant based on the threshold cited above.

Cultural Resources

The project would not cause a substantial adverse change in the significance of a historical resource as defined in §15064.5. The project site is currently vacant and does not contain any known resource of historical significance as defined in §15064.5.¹² However, during the construction phase of the proposed project it is possible that unknown historical resources could be discovered and potentially damaged which would result in a potentially significant impact. Implementation of the following mitigation measures from the 2007 Prospects Residential Project Final EIR would reduce the potential impact to less than significant.

Mitigation Measure MM-IV.C-1: Contractor Notification

Prior to excavation and construction of the proposed project, each individual worker of the prime contractor and any subcontractor(s) shall be informed on the legal and/or regulatory implications of knowingly destroying cultural resources or removing artifacts, human remains, bottles, paleontological resources, and other cultural materials from the project site. A City-approved archaeologist shall inform these individuals of the following: the definition of a cultural resource, the policies and procedures for identifying and protecting cultural resources, how to locate and receive assistance from the City-approved archaeologist, and steps to be taken if cultural resources are encountered during project construction. A copy of the training materials and staff sign in sheets shall be provided to the City on request.

Mitigation Measure MM-IV.C-2: Archaeologist Oversight

A City-approved archaeological monitor shall be present to observe construction activities during any and all ground-disturbing activities that occur in association with the proposed project, including any utility and sewer hookups within the public streets.

Mitigation Measure MM-IV.C-3: Cultural Resource Discovery

In the event that an unanticipated cultural resource is exposed during project construction, work within 30 feet of the discovery shall stop until a City-approved archaeologist, meeting the standards of the Secretary of the Interior, can identify and evaluate the significance of the discovery and develop recommendations for treatment. Recommendations could include preparation of a Treatment Plan, which could require recordation, collection and analysis of the discovery; preparation of a technical report; and curation of the collection and supporting documentation in an appropriate depository. However, as required by State law and in accordance with Section 15064.5(e) of the CEQA Guidelines, if Native American remains are discovered at the project site during construction, work at the specific construction site at which the remains have been uncovered shall be suspended, and the appropriate City and County

¹² City of Pacifica, *General Plan Draft Environmental Impact Report Cultural Resources*. March 2014.

agencies immediately notified. If the remains are determined by the County coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains.

The project would not cause a substantial adverse change in the significance of an archeological resource pursuant to §15064.5. There are no known archaeological resources on the project site and the site has been subject to previous grading related to quarrying.¹³ However, based on the topographic setting of the project site, there is a moderate possibility that unrecorded Native American cultural resources are present.¹⁴ The 2007 Prospects Residential Project Final EIR determined that this is a potentially significant impact that could be mitigated to a less-than-significant level via implementation of mitigation measures MM-IV.C-1 through MM-IV.C-3 above.

The project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Based on the geotechnical report prepared for the project site, there are no known paleontological resources or unique geological features on the project site.¹⁵ The 2007 Prospects Residential Project Final EIR determined that this is a potentially significant impact that could be mitigated to a less-than-significant level via implementation of mitigation measures MM-IV.C-1 through MM-IV.C-3 above.

The project would not disturb human remains, including those interred outside of formal cemeteries. Although it is believed that no human remains are known to have been found on the project site, it is possible that unknown resources could be encountered during project construction, particularly during ground-disturbing activities such as excavation and grading. However, as required by State law, if human remains are discovered at the project site during construction, work at the specific construction site at which the remains have been uncovered shall be suspended, and the appropriate City and County agencies immediately notified. If the remains are determined by the County coroner to be Native American, the NAHC shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. Therefore, project impacts to unknown human remains would be less than significant via implementation of mitigation measures MM-IV.C-1 through MM-IV.C-3 above.

CUMULATIVE

The geographic scope for cumulative impacts related to cultural resources includes projects within Pacifica particularly near the project site (Table III-1). Development of the project in

¹³ *California Historical Resources Information System, Northwest Information Center, Written Correspondence, June 13, 2006.*

¹⁴ *Ibid.*

¹⁵ *BAGG, Geotechnical Engineering Investigation Proposed Residential Development APN 022-083-20 and 30 (11 acres) Pacifica, California. April 2015.*

combination with the cumulative projects listed in Table III-2 (Cumulative Projects) has the potential to have a cumulative impact related to cultural resources. Impacts to cultural resources tend to be site-specific and are assessed on a site-by-site basis. The extent of the cultural resources (if any) that occur at the sites of the cumulative projects listed in Table III-2 is unknown, and thus, it is not known whether any of the cumulative projects would result in significant impacts to cultural resources. However, similar to the proposed project, such determinations would be made on a case-by-case basis and, if necessary, the applicants of the cumulative projects would be required to implement the appropriate mitigation measures. Thus, given the project's cultural resources impacts can be completely mitigated, the proposed project's impacts to cultural resources would not be cumulatively considerable as they would not exceed the thresholds of significance listed above.

Geology and Soils

The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. The potential for rupture of a known fault at the project site is negligible. Fault rupture or surface faulting is displacement that reaches the earth's surface during slip along a fault. Surface faulting commonly occurs with shallow earthquakes.¹⁶ Fault rupture is generally expected to occur along active fault traces that have exhibited signs of recent geological movement (i.e., within the past 11,000 years). Alquist-Priolo Earthquake Fault Zones (A-PEZA) delineate areas around active faults with potential surface fault rupture hazards that would require specific geological investigations prior to approval of certain kinds of development within the delineated area. The project site is not located within or adjacent to an Alquist-Priolo Earthquake Fault Zone. The mapping of active faults indicates that the project site is located between two regional active faults within the San Andreas Fault System (SAFS). The San Gregorio Fault is located approximately 4.2 miles west of the project site and lies within the Pacific Ocean. The San Andreas Fault is located approximately 2.7 miles east of the project site.

The site is located approximately 1.0 miles north of the mapped trace of the Pilarcitos Fault. This fault is not zoned as an 'active' fault under the A-PEZA. The location, trend, and other characteristics of the fault suggest that the Pilarcitos Fault may be an ancestral trace of the San Andreas Fault. Seismicity in the area of the fault indicates that the fault may be potentially active. However, due to distance of the proposed project site from the fault and other active faults described above, construction and operation of the project would have no impact to fault rupture.

¹⁶ USGS, 2016. Website: <http://earthquake.usgs.gov/learn/glossary/?term=surface%20faulting>.

The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Moderate to strong groundshaking during earthquakes can result in collateral types of ground failure, including liquefaction. Liquefaction is a phenomenon in which saturated, granular sediment lose strength as the result of increased pore water pressures caused by seismic shaking. The soils transform nearly instantaneously from a solid to a liquid state. Geologic conditions, site-specific investigation,¹⁷ and regional mapping indicate that the likelihood of the presence of saturated, granular deposits is very low. As such, the susceptibility of materials to liquefaction is very low. Construction and operation of the proposed project would not impact the potential for a seismic event to occur in the area. Grading and excavation for the development would be shallow compared to the bedrock depth that would need to be reached to trigger a seismic event. No other activity associated with the construction or operation of the development is known to trigger a seismic event. Therefore, the construction and operation of the proposed project would have no impact on liquefaction.

The project would not have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water. The proposed project does not propose on-site septic tanks or alternative wastewater disposal systems; the project would be connected to the existing sanitary sewer system. No impact would occur and no further analysis is required.

CUMULATIVE

The geographic scope for cumulative impacts related to geology and soils includes projects within Pacifica particularly near the project site (Table III-1). Development of the project in combination with the cumulative projects listed in Table III-2 (Cumulative Projects) has the potential to have a cumulative impact related to geology and soils. Geotechnical hazards are site-specific and there is little, if any, cumulative relationship between development of the proposed project and the cumulative projects. The impacts on each cumulative project site would be specific to that site and its users and would not be common or contribute to (or shared with, in an additive sense) the impacts on other sites. As such, construction of the cumulative projects listed in Table III-2 is not anticipated to combine with the proposed project to cumulatively expose people, property, or infrastructure to such geologic hazards as fault rupture and liquefaction. The project would also not include the use of septic tanks or alternative waste water disposal systems, and therefore would not result in a cumulative impact to soils resulting from the use of such systems where soils are incompatible.

Other potential cumulative impacts are discussed further in Section V.D (Geology and Soils). However, conformance with the CBC and the mitigation measures described in Section V.D would reduce project-related geohazard impacts to a less-than-significant level. Therefore, the

¹⁷ BAGG, 2016. *Update to Geotechnical Engineering Investigation, Proposed Residential Development, 805 Fassler Avenue, Pacifica, California. February 3.*

proposed project's contribution to significant cumulative impacts related to geology and soils would be less than significant as the applicable thresholds of significance would not be exceeded.

Greenhouse Gas Emissions

The project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

BAAQMD updated its CEQA Guidelines in June 2010 and in May 2012. The Guidelines included reference to thresholds of significance for the purpose of conducting CEQA air quality evaluations. The BAAQMD thresholds were adopted following an extensive public review and research process, which provided substantial evidence in support of the thresholds. Scientific information supporting the thresholds was documented in BAAQMD's proposed thresholds of significance analysis. Therefore, this Draft SEIR relies on those thresholds for its analysis.

BAAQMD's 2010 proposed GHG emissions-based thresholds establish a "bright-line" emissions threshold at 1,100 metric tons per year for land-use type projects and 10,000 metric tons per year for stationary sources. Land use projects with emissions above 1,100 metric tons per year are then judged based on the emissions per capita. Land use projects with annual emissions above 1,100 metric tons per year and annual emissions per capita greater than 4.6 metric tons are considered to have an impact, which, cumulatively, would be significant.

Projects below the applicable screening criteria, as shown in Table 2-1 of the draft guidelines, would not exceed the 1,100 MT of CO₂e/yr GHG threshold of significance for projects other than permitted stationary sources.¹⁸ For condominiums, the screening criteria of Table 3-1 states that any project under 78 dwelling units would be less than significant. The proposed project, 24 dwelling units, is well under the 78-unit threshold and therefore would result in less than significant GHG impacts.

The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. A significant impact may occur if a project were conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. The City of Pacifica adopted a Climate Action Plan (CAP) in July 2014. The CAP provides goals and implementation strategies for reducing GHG emission to 35% below 2005 levels by 2020. The project includes design features such as LEED certified lighting and Mitigation Measure Traffic-2 requires continuous pedestrian pathway be included as part of the proposed project. The project would not generate significant emissions of GHG as discussed above. The City's 1980 General Plan did not address compliance with a CAP, as there was no applicable CAP at that time. However, the General Plan does include policies for including traffic reduction and

¹⁸ BAAQMD CEQA Guidelines. 2010. http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/draft-baaqmd-ceqa-guidelines_dec-7-2009.pdf?la=en

energy-saving building requirements into new development, which are consistent with those policies of the CAP.¹⁹ The proposed project is consistent with the CAP's population projections and the General Plan's population projections and therefore would not conflict with the CAP.

CUMULATIVE

The geographic scope for cumulative impacts related to GHG emissions includes projects within Pacifica and beyond (Table III-1). Development of the project in combination with the cumulative projects listed in Table III-2 has the potential to have a cumulative impact related to greenhouse gas emissions.

Individual projects contribute to the cumulative effects of climate change by directly or indirectly emitting GHG emissions during construction and operational phases. Direct operational emissions include GHG emissions from new vehicle trips and area sources (natural gas combustion). Indirect emissions include emissions from electricity providers, energy required to pump, treat, and convey water, and emissions associated with waste removal, disposal, and landfill operations.

The proposed project would increase the activity on-site by introducing up to 24 dwelling units to a site that is currently vacant. Therefore, the proposed project would contribute to annual long-term increases in GHG emissions as a result of increased vehicle trips (mobile sources) and residential operations that result in an increase in energy use, water use and wastewater treatment, and solid waste disposal. Construction activities would also result in temporary increases in GHG emissions.

The City's 1980 General Plan did not address compliance with a Climate Action Plan (CAP), as there was no applicable CAP at that time. However, the General Plan does include policies for including traffic reduction and energy-saving building requirements into new development, which are consistent with those policies of the CAP.²⁰ The proposed project is consistent with the CAP and the General Plan. The project also includes design features such as LEED certified lighting and Mitigation Measure Traffic-2 requires a continuous pedestrian pathway be included as part of the proposed project. In addition, other existing regulations, such as those implemented through AB 32, will continue to reduce a proposed project's contribution to climate change. BAAQMD's approach to developing a Threshold of Significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move towards climate stabilization. If a project would generate GHG emissions above the threshold level, it would be considered to contribute substantially to a cumulative impact, and would be

¹⁹ City of Pacifica. 1980. General Plan. <http://www.cityofpacifica.org/civicax/filebank/blobdload.aspx?BlobID=10848>

²⁰ City of Pacifica. 1980. General Plan. <http://www.cityofpacifica.org/civicax/filebank/blobdload.aspx?BlobID=10848>

considered significant.²¹ The proposed project's GHG emissions would be below BAAQMD's screening threshold for GHG and not conflict with state, regional, and local GHG reduction plans and regulations. Thus the proposed project's contribution to GHG emissions would not be cumulatively considerable or generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment.

Hazards and Hazardous Materials

The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. The types of hazardous materials associated with the construction of the project and with routine, day-to-day operation of the proposed project would include fuel for construction equipment, landscaping chemicals that would be used in quantities typical for landscaped residential developments and typical cleaning solvents used for household purposes. The transport, use, and disposal of these materials would be required to conform to all applicable local, State, and federal regulations and therefore would not pose a significant hazard to the public or the environment. Therefore, project impacts related to this issue would be less than significant and no further analysis of this issue is required.

The project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Small amounts of hazardous materials would be used during construction activities for equipment maintenance (e.g., fuel and solvents). Use of hazardous materials during the construction and operational would comply with applicable local, state, and federal standards associated with the handling and storage of hazardous materials. Hazardous materials would not be stored or used, such as for equipment maintenance, where they could affect nearby land uses. As stated below, the project site is not located on a designated hazardous materials site, and the project site is currently vacant land, there is no reason to believe construction activities would disturb contamination soils. However, in the event contaminated soils are discovered, they would be disposed of according to state law (California Code of Regulations Articles 5.6 and 5.7). Therefore, impacts would be less than significant.

The proposed project would be a residential development, and as such is not expected to generate or use high levels of hazardous materials. In addition, on-site handling and storage of hazardous materials would be done according to all applicable local, State, and federal regulations. No upset or accident conditions resulting in the release of hazardous material into the environment can be reasonably expected to occur under these circumstances. Therefore, impacts would be less than significant and no further analysis is required.

²¹ Bay Area Air Quality Management District. June 2010. CEQA Air Quality Guidelines. Page 2-1.

The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The project site is not within ¼ mile from an existing or proposed school. No impact would occur and no further analysis is required.

The project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, it would not create a significant hazard to the public or the environment. According to the databases compiled by the California Environmental Protection Agency (Cal EPA), California Department of Toxic Substances Control (DTSC), and the State Water Resources Control Board (SWRCB), the proposed project site is not included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.^{22,23,24,25} Therefore, the project would not result in impacts related to being located on a site that is included on a list of hazardous materials sites. Thus, no further analysis of this issue is required.

The project is not located within an airport land use plan or within two miles of a public airport or public use airport. San Francisco International Airport (SFO) is located approximately five miles east of the project site. Furthermore, according the Airport Land Use Compatibility Plan for SFO, the project site is not located within Area of Influence B, which contains the safety zones for SFO.²⁶ Therefore, the project would not expose persons to a safety hazard related to airports. No further analysis of this issue is required.

The project is not within the vicinity of a private airstrip that would result in a safety hazard for people residing or working in the project area. Therefore, the project would not result in a safety hazard associated with a private airstrip. No further analysis of this issue is required.

The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The proposed project is consistent with the policies of the City of Pacifica's General Plan's Safety Element. The General Plan Safety Element does not include emergency evacuation routes.²⁷ The proposed project is

²² California Department of Toxic Substances Control. *Envirostor*. Accessed October 17, 2016. Available: <http://www.envirostor.dtsc.ca.gov/public/>.

²³ State Water Resources Control Board. *GeoTracker Database*. Accessed March 13, 2017. Available: <https://geotracker.waterboards.ca.gov/>.

²⁴ California Environmental Protection Agency (Cal EPA). 2016. *Sites Identified with Waste Constituents Above Hazardous Waste Levels Outside the Waste Management Unit*. Accessed March 13, 2017. Available: <http://www.calepa.ca.gov/files/2016/10/SiteCleanup-CorteseList-CurrentList.pdf>.

²⁵ Cal EPA. 2012. *Site Cleanup Cortese List – CDO and CAO List*. Accessed March 13, 2017. Available: <http://www.calepa.ca.gov/SiteCleanup/CorteseList/>.

²⁶ C/CAG of San Mateo County, *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport*. 2012.

²⁷ City of Pacifica *General Plan, Safety Element*. 1983.

also consistent with the objectives of the Local Hazard Mitigation Plan Annex for the City of Pacifica.²⁸ Given the relatively low level of traffic associated with both the construction and operational phase of the project, a less-than-significant impact would occur, and no further analysis of this issue is necessary.

The project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. A significant impact may occur if the project is located in proximity to wildland areas and poses a potential fire hazard, which could affect persons or structures in the area in the event of fire. The project site is located in a largely undeveloped area of Pacifica with a residential neighborhood adjacent to the east of the site and new residential subdivision under construction south of the site across Fassler Avenue. Three criteria are used by the California Department of Forestry and Fire Protection to evaluate the potential fire hazard in wildland areas: fuel loading (vegetation), fire weather (winds, temperatures, humidities and fuel moisture contents) and topography (degree of slope). According to the City of Pacifica General Plan fire hazards map, the project site is located in a low fire hazard area, but is adjacent to areas in Rockaway, designated as a Medium Fire Hazards²⁹. The construction and operational phases of the project would be required to comply with all applicable regulations and fire codes, including those mandated by the North County Fire Authority (NCFA). Therefore, the project would not expose people or structures to a significant risk of loss associated with wildland fires. A less-than-significant impact would occur and no further analysis of this issue is required.

CUMULATIVE

The geographic scope for cumulative impacts related to hazards and hazardous materials includes projects within Pacifica particularly near the project site (Table III-1). Development of the project in combination with the cumulative projects listed in Table III-2 has the potential to have a cumulative impact to hazards and hazardous materials. Development of the project in combination with the cumulative projects listed in Table III-2 has the potential to increase the risk for accidental release of hazardous materials. The cumulative projects list represents the broadest range of reasonable foreseeable development, including a number of projects that have not yet been approved. Each of the cumulative projects would require evaluation for potential threats to public safety, including those associated with transport/use/disposal of hazardous materials, accidental release of hazardous materials into the environment, hazards to sensitive receptors, listed hazardous material sites, aircraft-related hazards, emergency response, and wildland fire-related hazards. Because hazardous materials and risk of upset conditions are largely site-specific, this evaluation would occur on a case-by-case basis for each individual project affected, in conjunction with development proposals on these properties.

²⁸ City of Pacifica, *Local Hazard Mitigation Plan Annex*, November 7, 2005.

²⁹ City of Pacifica. 1980. *General Plan. Seismic Safety and Safety Element. Page 111a*

Further, each cumulative project would be required to follow local, state, and federal laws regarding hazardous materials and other hazards, including emergency response, airport operations and wildland fires (if applicable). Therefore, with full compliance with local, state, and federal laws pertaining to hazards and hazardous materials, cumulative impacts would be less than significant.

Hydrology and Water Quality

The project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted). The design and hydrogeologic setting of the proposed project would limit the potential adverse effects of construction and operation of the proposed project on the rate or quantity of groundwater at or in the vicinity of the project site. The portion of the project site that would be developed is located on a topographic 'bench' on a relatively narrow ridge. The bench was apparently created as the result of quarrying of bedrock. Therefore, the portion of the site that would be developed is underlain directly or at shallow depth by Franciscan sandstone bedrock. This type of bedrock has relatively low primary permeability (i.e., ability to transmit water through the rock mass) but fractures in the rock provide a secondary permeability. In this setting, groundwater would be expected to occur in fractures within the bedrock but this groundwater resource is not typically regarded as an aquifer. Additionally, the site is located on the steep south margin of a stream valley. The valley provides a discharge boundary for groundwater contained in the fractured bedrock. Subsurface investigation of the site included drilling and sampling of five exploratory borings and excavation of nine test pits. The depths of investigation at the borings ranged from 23.8 to 29.5 feet and up to 13 feet in the test pits.³⁰ Therefore, impacts would be less than significant and no further analysis is required.

The project would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation. The project site is not located within or adjacent to a 100-year flood hazard zone identified by the Federal Emergency Management Agency's Flood Insurance Rate Mapping program.³¹ The elevation and topographic setting of the project reduce the potential for any flooding. Therefore, no housing would be constructed within a 100-year flood hazard area. No impact would occur and no further analysis is required.

The project would not place structures within a 100-year flood hazard area which would impede or redirect flood flows. As described in the previous answer above, the project is not

³⁰ BAGG, *Geotechnical Engineering Investigation Proposed Residential Development APN 022-083-20 and 30 (11 acres) Pacifica, California*. April 2015.

³¹ <https://msc.fema.gov/portal/search?AddressQuery=city%20of%20pacific%20ca#searchresultsanchor>

within or adjacent to a 100-year flood hazard zone. Therefore, no structures proposed by the project would impede or redirect flood flows within such zones. No impact would occur and no further analysis is required.

The project would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

The project would not be located near a levee or dam. No impact would occur and no further analysis is required.

The project is not subject to risk of inundation by seiche, tsunami, or mudflow. Tsunamis are large waves generated in the ocean as a result of large-scale displacements of the ocean floor. Such displacements are typically caused by earth movements during earthquakes but can also be caused by large submarine landslides. A seiche is a wave generated in a standing body of water by oscillations in the earth (typically caused by earthquakes) or extreme variations in barometric pressure. The detention basin proposed for the project is relatively small and would only store water temporarily, reducing the potential for inundation of structures to a negligible level. Mudflows are a type of a landslide, which are described in the Geology and Soils section of this Initial Study. Impacts are considered less than significant and no further analysis is required.

CUMULATIVE

The geographic scope for cumulative impacts related to hydrology and water quality includes projects within the Calera Creek watershed (Table III-1). Development of the project in combination with the cumulative projects listed in Table III-2 has the potential to have a cumulative impact related to hydrology and water quality.

As the project site is located in an area with low permeability, development of the project site would not significantly impact groundwater recharge from existing conditions and would not contribute to a cumulative impact. Construction of the proposed project would not contribute to a cumulative impact related to structures placed within the 100-year floodplain or exposure to flooding from dams, levees, tsunamis, or mudflows, as the project is not located within the 100-year flood plain and is not subject to these hazards. Other cumulative impacts related to hydrology and water quality are discussed further in Section V.E (Hydrology and Water Quality). By complying with applicable regulations, through incorporation of BMPs to prevent increases in peak flows and treat post-construction runoff, cumulative hydrologic and water quality impacts would be less than significant based on the thresholds cited above.

Land Use and Planning

The project would not physically divide an established community. The project site is currently vacant and the surrounding area is primarily open space. There are residential uses to the east of the project site and across Fassler Avenue. The proposed project would not divide an established community and no further analysis is necessary.

The project would not conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. CEQA requires consideration be given to whether a proposed project may conflict with any applicable land use plans, policies, or regulations including, but not limited to, the General Plan, Specific Plan, or Zoning Ordinance. This environmental determination differs from the larger policy determination of whether a proposed project is consistent with a jurisdiction's General Plan. The former determination (that intended for consideration in a CEQA document) is limited to a review and analysis, and is made by the preparers of the CEQA document. The latter determination by comparison, is made by the decision-making body of the jurisdiction and is based on a jurisdiction's broad discretion to assess whether a proposed project conforms to the policies and objectives of its General Plan as a whole.

The General Plan designation for approximately 3.6 acres of the western portion of the site is Open Space Residential (OSR), which allows one unit per more than five acres. 7.6 acres on the eastern portion of the site are designated as Low Density Residential (LDR), which allows three to nine units per acre. A Transfer of Development Rights (TDR) would be required, as the proposed project sites the majority of the units within the Open Space Residential parcel. The total number of units would remain as 24 for the project site; however, there would be no need for a General Plan Amendment because the General Plan designations would remain unchanged as OSR and LDR. The requirements for the TDR are listed in Section 9-4.4200 through 9-4.4208 of the Zoning Code. Section 9-4.4205 specifically allows transfer of development rights within one parcel, which is the proposal under consideration. The project is in compliance with all the requirements as listed in the Zoning Code. The 3.6 acres in the easterly portion of the site qualifies as a sending area as it is an open space area designated in the Open Space Task Force Report of 1988 (identified as a portion of Parcel 25). The 7.6 acres in the westerly portion of the site qualifies as a receiving area as it is designated as P-D (Planned Development District), as is the entire site. Consistent with the requirements of Section 9-4.4206, all the density allowed in the LDR easterly portion of the site would be transferred to the westerly portion of the site with the General Plan designation of OSR.

The findings to approve a TDR are: 1) the criteria of Section 9-4.4204 are met; and 2) the transfer will result in the permanent preservation of open space land with natural, scenic, agricultural or recreational value, or in the preservation of undeveloped land subject to geotechnical hazard or flooding. In this case, the TDR will result in the preservation of open space with natural value, as the project includes the permanent preservation of the sending area as open space.

The proposed project site lies within the P-D zoning designation, which allows diversification of the relationships of various buildings, structures and open spaces in planned building groups, while ensuring compliance with district regulations. The proposed project site is also within an HPD overlay. It is the intent of the HPD overlay to place controls on proposed development

within hillside areas of the City in order to preserve and enhance their use as a prime resource, help protect people and property from all potentially hazardous conditions particular to hillsides, and assure that any development be economically sound, and encourage innovative design solutions. The heights of the proposed structures would cause an environmental impact on Aesthetics and a variance would be required. Refer to Section IV (Environmental Setting) and Section V.B (Aesthetics) for a detailed discussion on building heights and aesthetic impacts. The proposed project would require rezoning and other City approvals. However, zoning conflicts in and of themselves are not considered environmental impacts pursuant to CEQA Guidelines Section 15126.2(a), which only requires the identification of physical environmental impacts, of which none are expected to result from changes to any applicable land use plan, policy or regulation. Land use impacts associated with the proposed project would be similar to the conclusion of the 2007 Final EIR for the Prospects Residential Project and are considered less than significant and no further analysis is required.

The project would not conflict with any applicable habitat conservation plan or natural community conservation plan. The project site is not subject to a Habitat Conservation Plan, Natural Community Conservation Plan, or any other habitat plan. Therefore, development of the proposed project would not conflict with any habitat conservation plan. Thus, no further analysis of the issue is required.

CUMULATIVE

The geographic scope for cumulative impacts related to land use includes projects within the within Pacifica particularly near the project site (Table III-1). Development of the project in combination with the cumulative projects listed in Table III-2 has the potential to have a cumulative impact related to land use and planning.

Cumulative land use impacts would occur if other cumulative projects in the vicinity of the project site would result in land use impacts in conjunction with the proposed project. The cumulative projects, in conjunction with the proposed project, would result in the general intensification of land use and development density in the City. These projects would be required to either conform to the zoning and land use designations for each site or be subject to specific findings and conditions, which are based on maintaining general conformance with the land use plans applicable to the area. While the proposed project would require a Transfer of Development Rights and Height Variance, City approval and rezoning would allow the project to comply with zoning regulations. As such, development of the proposed project and cumulative projects is not anticipated to substantially conflict with the intent of the City's General Plan regarding the future development of the area, or with other land use regulations required to be consistent with the General Plan, Zoning Regulations and Ordinance Codes. Therefore, cumulative impacts to land use would be less than significant.

Mineral Resources

The project would not result in the loss or availability of a known mineral resource that would be of value to the region and the residents or the state. There are no known mineral

resources at or near the project site. Although the project site previously operated as a quarry, it is not the location of an area of a known mineral resource of regional significance. The Pacifica Quarry and Mori Point were designated in 1987 as an area of regional mineral significance.³² This is the only area of the City with such a designation, and it is not located on or near the project site. Thus, the proposed project would not result in the loss or availability of a known mineral resource that would be of value to the region and the residents or the state. No further analysis of this issue is required.

The project would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. As discussed in the answer above, there are no mineral resources at or near the project site. No impact would occur and no further analysis of this issue is required.

CUMULATIVE

The geographic scope for cumulative impacts related to mineral resources includes projects within Pacifica particularly near the project site (Table III-1). Development of the project in combination with the cumulative projects listed in Table III-2 has the potential to have a cumulative impact related to mineral resources. The proposed project does not involve the loss of availability of any known mineral resources or locally-important mineral resources, and therefore does not contribute to a cumulative loss of mineral resources.

Therefore, as the proposed project would have no impact on mineral resources, the project would not contribute to significant cumulative impacts based on the thresholds of significance cited above.

Noise

The proposed project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels. A significant impact would occur if the proposed project were to generate or expose people to excessive groundborne vibration or groundborne noise levels. Noise-sensitive land uses generally include residential uses, hospitals, schools, and religious institutions.

Construction activities can generate groundborne vibration that is feelable (causes annoyance) and in extreme cases, causes physical damage to nearby buildings. Generally, groundborne vibration is detectable at much lower levels than would be necessary to cause physical damage. Since the vibration sources associated with this project (construction) are temporary, this analysis uses the Caltrans thresholds for damage and annoyance to assess the significance of groundborne vibration.

The relationship between vibration levels and building damage has been investigated over the years and though there is limited consistency in recommended damage thresholds, a peak

³² City of Pacifica General Plan, Conservation Element, March 1978.

particle velocity (PPV) of 0.2 in/sec second is commonly used as the threshold at which there is risk of architectural damage to normal dwellings. This threshold is relatively conservative and is appropriate for older homes with walls and ceilings constructed with plaster. Higher thresholds, of up to a PPV of 0.5 in/sec, have been suggested for preventing damage to residential buildings in good repair with gypsum board walls. Table V.A-1 presents vibration source levels for construction equipment that would be used for the project. The vibration level is shown for a reference distance of 25 feet from the equipment and is based on published measurement data. The actual vibration level would depend on the specific equipment used and the type of soil at the project site. The vibration level would be lower than those shown in Table V.A-1 at distances greater than 25 feet and higher at distances less than 25 feet. For each type of equipment, Table V.A-1 also shows the distance from the equipment at which the vibration level is calculated to equal the damage risk threshold of PPV 0.2 in/sec.

**Table V.A-1
Construction Equipment Vibration Levels**

Equipment	Vibration Level (PPV) at 25 Feet from Equipment (in/sec)*	Distance from Equipment to Damage Risk Threshold (feet)**
Vibratory Roller	0.210	26
Large Bulldozer	0.089	15
Loaded Truck	0.076	13
<i>*Source: Federal Transit Administration. Transit Noise and Vibration Impact Assessment, 2006</i>		
<i>**Calculated based on FTA methodology for vibration level attenuation with distance and a damage risk threshold of PPV 0.2 in/sec.</i>		

The nearest and most notable sensitive receptor to the project site is the multi-family development building located approximately 500 (\pm 20) feet to the east of the project site, which is well beyond of the damage risk thresholds listed in Table V.A-1. Table V.A-2 presents annoyance potential for groundborne vibration. Short periods of groundborne vibration in excess of 2.0 in/sec PPV can be expected to result in severe annoyance to people. Since the highest vibration level expected from construction is 0.210 in/sec PPV at 25 feet, it is reasonable to conclude that vibration at the nearest sensitive receptor at 500 (\pm 20) feet would be below this 2.0 in/sec PPV threshold.

**Table V.A-2
Annoyance Potential to People at Various Groundborne Vibration Levels**

Human Response	Vibration Level (in/sec PPV)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely Perceptible	0.04	0.01
Distinctly Perceptible	0.25	0.04
Strongly Perceptible	0.9	0.10
Severe	2.0	0.40
<i>*Source: Caltrans, 2013. Transportation and Construction Guidance Manual.</i>		

Therefore, project impacts related to excessive construction-related groundborne vibration would be less than significant. No further analysis is required.

The project would not create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. A significant impact may occur if the operation of the proposed project would introduce substantial new sources of noise or would significantly add to existing sources of noise within the vicinity of the project site. Operational impacts could be significant if traffic attributable to the proposed project were to increase the ambient noise level along any roadway segment by an audible amount (3 dBA or more) and cause the noise levels to move from an acceptable range to unacceptable range. The proposed project would generate 15 fewer trips in the AM peak hour and 17 fewer trips during the PM peak hour compared to the 34-unit project analyzed in the 2006 Draft EIR for the Prospects Residential Project. The Prospects Residential Project EIR found that operational traffic noise impacts associated with that project would be less than significant. Given the proposed project has fewer residential units and less traffic generation compared to the Prospects Residential Project, ambient operational noise levels would not substantially increase resulting in a less than significant impact. No further analysis is required.

The project is not located within an airport land use plan or within two miles of a public airport or public use airport. The project site is located within the San Francisco International Airport land use plan but is not located within Area of Influence B which includes noise and safety regulations.³³ The proposed project would place new residential uses in an undeveloped area adjacent to existing residential and open space areas. As discussed above, construction of the proposed project would result in temporary and short-term increases in noise levels during construction. Implementation of MM IV.G-2 would reduce impacts to a less-than-significant level. Occupation of the proposed homes is expected to result in the typical noises associated with residential development. Therefore, use of the proposed project would not expose persons to excessive noise levels associated with a public airport or public use airport.

The project is not located within the vicinity of a private airstrip. The project site is not located within the vicinity of a private airstrip. Therefore, the proposed project would not expose persons to excessive noise levels associated with a private airstrip. No further analysis of this issue is required.

CUMULATIVE

The geographic scope for cumulative impacts related to noise includes projects within Pacifica particularly near the project site (Table III-1). Development of the project in combination with the cumulative projects listed in Table III-2 has the potential to have a cumulative impact related to vibration. The cumulative projects listed in Table III-2 consist of projects of various land uses,

³³ C/CAG of San Mateo County, *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport*. 2012.

including (but not limited to) single-family residential, multi-family residential, commercial, and retail. Construction vibration is localized in nature and decreases substantially with distance. As shown in Table III-2, Harmony @ 1 is the only cumulative project located close enough to create a cumulative effect. The properties that may experience cumulative noise and vibration from the proposed project and Harmony @ 1 are the proposed project and Harmony @ 1. Other surrounding properties are private vacant land or North Coast County Water District property. Developed properties or sensitive receptors would be located approximately 500 feet or more from either the construction site of the proposed project or the Harmony @ 1 site which is well beyond of the vibration damage risk thresholds listed in Table V.A-1. Therefore, cumulative impacts related to excessive construction-related groundborne vibration would be less than significant.

Section V.F (Transportation and Traffic) shows that traffic associated with the Cumulative-With-Project traffic scenario would not result in a doubling of traffic volumes on local roadways. As such, cumulative increases in traffic due to the project would result in no more than a 2 dB(A) increase in noise levels along area roadways over the existing noise environment. Because noise levels associated with Cumulative-With-Project traffic would not result in an increase of 3 dB(A) or more, cumulative traffic noise impacts on the proposed on- and off-site land uses would be less than significant and no mitigation measures are required.

Population and Housing

The project would not induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). The proposed project consists of 24 residential units. New residential uses would increase the City's population. Using an existing persons-per-household size of 2.65,³⁴ the proposed project would be expected to accommodate approximately 65 (2.65 x 24) residents. According to ABAG, by 2020, the City's projected population would be 40,600.³⁵ Assuming that all residents generated by the proposed project are new to the City, they would make up 0.0016 percent of the baseline population (2015) and 0.0016 percent of the projected population for the year 2020. Because the proposed project would not exceed the ABAG population projections and would not result in substantial indirect growth (for example, through extension of roads or other infrastructure beyond the project site), impacts would be less than significant. No further analysis is required.

³⁴ U.S. Census Bureau. *Census 2010; American Community Survey 2010 three-Year Estimates.*

³⁵ Association of Bay Area Governments (ABAG). *2013. Bay Area Plan Projects 2013.*

The project would not displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere. There are no existing housing units on the project site. Therefore, the proposed project would not displace substantial numbers of existing housing. No further discussion of this issue is required.

CUMULATIVE

The geographic scope for cumulative impacts related to population includes projects within Pacifica and beyond (Table III-1). Development of the project in combination with the cumulative projects listed in Table III-2 has the potential to have a cumulative impact related to population and housing. The proposed project would not exceed population projections for the City, and therefore does not contribute to a cumulative impact related to substantial direct or indirect population growth. Furthermore, the site is currently open space and is zoned as both Open Space Residential and Low Density Residential and therefore the project does not contribute to a cumulative displacement of housing or growth that was not anticipated in the region as designated by the general plan and zoning ordinance. Therefore, the project would not contribute to significant cumulative impacts based on the thresholds of significance cited above.

Public Services

The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services.

Fire

Fire protection services to the project site and area are provided by the North County Fire Authority (NCFA).³⁶ The NCFA is a Joint Powers Authority that serves the communities of Pacifica, Daily City, and Brisbane. There are two fire stations in the project area. Station 71 is located at 616 Edgemar Avenue and is staffed by a Type I Paramedic-Engine Company and is the West Battalion headquarters (B18). Station 72 is located at 1100 Linda Mar Boulevard and is staffed by a Type I Paramedic-Engine Company and Rescue 72. The 2007 Final EIR concluded that impacts to fire protection from the Prospects Residential Project would be less-than-significant. The proposed project would result in fewer residential units and residential population compared to the Prospects Residential Project, and thus would likely result in fewer demands for fire protection services provided by the NCFA. The NCFA has also approved the projects ingress and egress plans relative to emergency access and evacuation. It is not

³⁶ North County Fire Authority. *Fire Stations*. Accessed October 7, 2015.
<http://northcountyfire.org/ndfa-overview/fire-stations/>

anticipated that implementation of the proposed project would necessitate the expansion or construction of fire protection facilities that could result in significant physical environmental impacts. Therefore, project impacts related to fire protection services would be less than significant.

Police Protection

The project site would be served by the Pacifica Police Department. The Pacifica Police Department (PPD) operates out of the main station located at 2075 Coast Highway and currently has a total of 38 employees.³⁷ The 2007 Final EIR concluded that impacts to police protection from the Prospects Residential Project would be less-than-significant. The proposed project would result in fewer residential units and residential population compared to the Prospects Residential Project, and thus would likely result in fewer demands for police protection services provided by the PPD. It is not anticipated that implementation of the proposed project would necessitate the expansion or construction of police protection facilities that could result in significant physical environmental impacts. Impacts are, therefore, less than significant and no further analysis is required.

Schools

The project site is served by the Pacifica School District (PSD). PSD operates elementary schools (grades K through 5th) and middle schools (grades 6th through 8th). Laguna Salada Union High School District and Jefferson Union High School District operate high school (grades 9th through 12th) facilities for the residents of Pacifica. The estimated number of students the proposed project would generate is derived by multiplying the number of students per dwelling unit (the student yield factor) by the number of dwelling units in the project (24 units). The California State Allocation Board Office of Public School Construction reports that the statewide student yield factor per dwelling unit is 0.5 students for grades K through 6th and 0.2 students for grades 7th through 12th.³⁸ The statewide average student yield factor may be broken down as 0.071 students in each grade year K through 6th and 0.033 students in each grade year 7th through 12th. To calculate project impacts on the PSD, the statewide average student yield factor per dwelling unit may be expressed as 0.43 elementary school students and 0.14 middle school students, and 0.13 high school students. Applying the statewide average student yield factor, the project would generate 19 students – approximately 11 elementary school students, 4 middle school students, and 4 high school students.

³⁷ Pacifica Police Department. Annual Report 2014. Accessed October 7, 2015. <http://www.cityofpacifica.org/civica/filebank/blobdload.asp?BlobID=7375>

³⁸ Title 2, Cal. Code Regs., § 1859.2; California State Allocation Board Office of Public School Construction, "Enrollment Certification Projection," <https://www.dgsapps.dgs.ca.gov/OPSC/ab1014/sab50-01instructions.pdf>. Revised June 2008.

Pursuant to California Education Code Section 17620(a)(1), the governing board at any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities. As such, the project applicant would be required to pay the required developer fees to PSD and the two high school districts to offset any impacts the project could have to schools. Provided in Section 65996 of the California Government Code, the payment of such fees is deemed to fully mitigate the impacts of new development on school's services. Therefore, project impacts related to school services would be less than significant. No further analysis of this issue is required.

Parks

Project implementation would result in increased use of the City's parks, beaches, and recreational facilities. Some passive recreational uses would be provided on-site. Nonetheless, any increase in use of existing facilities would be minimal since the project is anticipated to increase the City's population only by 65 residents. Any additional needs would be served by existing facilities. Impacts would be less than significant and no further analysis is required.

Other Public Facilities

No other public facilities have been identified that could be substantially adversely affected by the project. No further analysis of this issue is necessary.

CUMULATIVE

The geographic scope for cumulative impacts related to public services includes projects within Pacifica and beyond (Table III-1). Development of the project in combination with the cumulative projects listed in Table III-2 has the potential to have a cumulative impact related to public services. Specifically, there would be increased demands for police, fire, school, park, and library services due to the increase in residents. However, the demand for these services would not change significantly with implementation of the proposed project and cumulative projects.

Similar to the proposed project, each of the cumulative projects would be individually subject to review by the applicable police and fire departments, and would be required to comply with all safety requirements of the applicable jurisdiction to adequately address police and fire protection service demands. As with the proposed project, the applicants of the cumulative projects would be required to pay developer fees to the appropriate school districts as applicable; and payment of these fees would fully mitigate any impact that the cumulative projects would have on school services, pursuant to Section 65996 of the California Government Code. The CUSD will work with each individual developer to accommodate the demand for school services associated with their specific development.

As such, implementation of the proposed project and cumulative projects would not require these services to construct new facilities or expand existing facilities to accommodate increased

demand for services. Therefore, cumulative impacts associated with public services would be less than significant based on the thresholds of significance cited above.

Recreation

The project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Project implementation would result in increased use of the City's parks, beaches, and recreational facilities. Any increase in use of existing facilities would be minimal since the project is anticipated to increase the City's population by only 65 residents and the project would also provide on-site recreational amenities. Impacts would be less than significant and no further analysis is required.

The project does include recreational facilities and would not require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Implementation of the proposed project includes the construction of on-site passive recreational facilities. These facilities would be constructed on land that is currently vacant containing three different habitat types: coastal scrub, perennial grassland, and willow scrub which could be adversely impacted as a result of development of the passive recreational facilities of the proposed project. This issue is addressed in Section V.C (Biological Resources) of the Draft SEIR.

CUMULATIVE

The geographic scope for cumulative impacts related to recreation includes projects within Pacifica and beyond (Table III-1). Development of the project in combination with the cumulative projects listed in Table III-2 has the potential to have a cumulative impact related to recreation. The proposed project would increase the number of residents in the area and therefore, could result in an increase in the use of recreational facilities in the area. The General Plan's park standards would serve to ensure that the City's park ratio at buildout will be similar to the existing ratio. Therefore, new park development accompanying population growth would be expected to accommodate additional park demand at a level consistent with current usage. General Plan policies include provisions to ensure that all park classifications continue to be developed throughout the City such that no single site would experience substantially increased burdens from new development. The General Plan includes an in-lieu fee and land dedication system for new development would similarly seek to ensure that parks are provided near new homes and businesses.

The General Plan focuses the development of new park land on underused public land and as part of new development. These policies would allow the City to avoid siting park land on undisturbed, undeveloped land. Other proposed policies establish guidelines for construction practices, siting, and design that require best management practices (BMPs) to protect water quality, identification of sensitive environmental habitat, and the protection of sites determined to have high habitat value. Therefore, cumulative impacts associated with recreation would be less than significant based on the thresholds of significance cited above.

Transportation and Traffic

The project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that would result in substantial safety risks. Due to the nature and scope of the proposed project, implementation of the project would not have the potential to result in a change in air traffic patterns at any airport in the area. Therefore, no further analysis of the issue is required.

The project would not result in inadequate emergency access. Emergency access is not expected to be significantly impacted by the proposed project. Throughout construction activities, the streets surrounding the proposed project would be open, allowing adequate access for emergency vehicles. The NCFCA has also approved the project's ingress and egress plans relative to emergency access and evacuation. Therefore, emergency access is not expected to be significantly impacted and no further analysis is required.

CUMULATIVE

The geographic scope for cumulative impacts related to transportation and traffic includes projects within Pacifica and beyond (Table III-1). Development of the project in combination with the cumulative projects listed in Table III-2 has the potential to have a cumulative impact related to transportation and traffic. Due to the nature and scope of the proposed project, implementation of the project would not have the potential to result in a change in air traffic patterns at any airport in the area; therefore, no cumulative impact would occur. The project would be subject to municipal code for construction related traffic impacts, as would all other projects within the City. The proposed project would not impede emergency access to the vicinity. Furthermore, the NCFCA has also approved the project's ingress and egress plans relative to emergency access and evacuation. Therefore, no significant cumulative impact would occur based on the thresholds of significance cited above. Other cumulative impacts related to transportation and traffic are discussed further in Section V.F (Transportation and Traffic).

Tribal Cultural Resources

AB 52, which went into effect on July 1, 2015, established a consultation process with all California Native American Tribes on the NAHC List and required consideration of Tribal Cultural Values in the determination of project impacts and mitigation. AB 52 established a new class of resources, tribal cultural resources, defined as a site feature, place, cultural landscape, sacred place or object, which is of cultural value to a Tribe that is either: (1) on or eligible for the California Historic Register or a local historic register; or (2) treated by the lead agency, at its discretion, as a traditional cultural resource per Public Resources Code 21074 (a)(1)(A)-(B).

Public Resources Code Section 21083.09, added by AB 52, required the California Natural Resources Agency to update Appendix G of the CEQA Guidelines to address tribal cultural resources. Pursuant to Government Code Section 11346.6, on August 8, 2016, the California Natural Resources Agency adopted and amended the CEQA Guidelines to include

consideration of impacts to tribal cultural resources. These amendments separated the consideration of paleontological resources from tribal cultural resources and updated the relevant sample questions to add specific consideration of tribal cultural resources.

The project would not cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and 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). No known tribal cultural resources have been identified or reported on the project site. Implementation of Mitigation Measures MM-IV.C-1 through MM-IV.C-3 would reduce impacts to unknown cultural resources, including tribal cultural resources, to a less-than-significant level.

The project would not cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and 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 5024.1. A tribal cultural resource is defined under AB 52 as a site, feature, place, or cultural landscape that is geographically defined in terms of size and scope, sacred place, and object with cultural value to a California Native American tribe that are either included or eligible for inclusion in the California Register of Historic Resources or included in a local register of historical resources, or included in a local register of historical resources, or if the City, acting as the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a tribal cultural resource.

In accordance with AB 52, Native American Tribes may request that Lead Agencies provide notification of projects. In the event that a Tribe has submitted a request for notification, the Lead Agency shall provide the Tribe with the opportunity to consult on projects early in the CEQA process. The City has not received requests for notification from any Tribes, so tribal consultation was not conducted. Therefore, implementation of Mitigation Measures MM-IV.C-1 through MM-IV.C-3 would minimize impacts to tribal cultural resources to a less-than-significant level.

CUMULATIVE

The geographic scope for cumulative impacts related to tribal cultural resources includes projects within Pacifica particularly near the project site (Table III-1). Development of the project in combination with the cumulative projects listed in Table III-2 would not have the potential to have a cumulative impact related to tribal cultural resources. Impacts to tribal cultural resources

tend to be site-specific and are assessed on a site-by-site basis. The extent of the tribal cultural resources (if any) that occur at the sites of the cumulative projects listed in Table III-2 is unknown, and thus, it is not known whether any of the cumulative projects would result in significant impacts to tribal cultural resources. However, as implementation of Mitigation Measures MM-IV.C-1 through MM-IV.C-3 would minimize impacts to tribal cultural resources to a less-than-significant level, the proposed project would also not contribute to cumulative impacts to tribal cultural resources based on the thresholds of significance cited above.

Utilities and Service Systems

The project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. Wastewater from the proposed project would be treated according to the wastewater treatment requirements enforced by the City and the Regional Water Quality Control Board for disposal in the City of Pacifica municipal sewer system. Therefore, project impacts related to exceeding wastewater treatment requirements would be less than significant and no further analysis of this issue is required.

The project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. The primary wastewater treatment facility that would serve the project site is the City of Pacifica's Caldera Creek Water Recycling Plant (CCWRP). The CCWRP can treat 4.0 mgd (million gallons of sewage per day) and up to 20 mgd during a storm event.³⁹ Average annual wastewater flows have been declining in recent years, from 3.66 mgd on average in 2001 to 2.9 mgd in 2008.⁴⁰ As cited in the 2014 General Plan Draft EIR, flows were projected to rise to 3.2 mgd by 2012. Considering Pacifica's slow projected growth, the Plant is believed to have adequate capacity for the next 15 to 20 years.⁴¹

The CCWRP currently operates at or over capacity during storm events. During storm events, the CCWRP experiences inflow (rainwater flowing into the sanitary sewer system) and infiltration (groundwater seepage into the sanitary sewer system) which can bring the CCWRP to or above capacity. During dry weather, the CCWRP could accommodate the additional input from the proposed project; however, during storm events the plant may not have the capacity to accommodate this level of additional input.

Section 6-11.104 of The City of Pacifica Municipal Code provides for the funding to improve the City's wastewater collection system by reducing inflow and infiltration. Fees are paid for connection to the City wastewater collection system for the purpose of providing funds for eliminating an equivalent volume of inflow and infiltration as the proposed wastewater flow to be

³⁹ City of Pacifica. *Calera Creek Water Recycling About the Facility.* http://www.cityofpacifica.org/depts/wwt/caleracreek/about_the_facility.asp

⁴⁰ *Pacifica General Plan Draft Environmental Impact Report.* March 2014.

⁴¹ *Ibid.*

contributed to the collection system by the proposed connection (“inflow/infiltration fees”). The infiltration and inflow fee is used by the City to replace or repair sewer lines that have been identified by Wastewater staff as having problems being infiltrated with storm water runoff. Fees are collected by the City at the time of building permit issuance. Fees increase incrementally annually, based on the Construction Cost Index in the San Francisco Bay Area, published in the issue of the Engineering News Record (ENR) by McGraw-Hill Publication Company.

In addition to the fees described above, the City of Pacifica Department of Waste Water Treatment collects sewage connection fees prior to issuance of a building permit. These fees are based on the type of development proposed (residential units, multi-family dwellings, commercial units). Applicable fees are calculated on the City Waste Water Department’s Sewage Connection Fee List. The sewer connection fee is collected by the City to offset the costs of each new development attaching to the existing sewer system. Fees increase incrementally annually, based on the Construction Cost Index as described above.

The proposed project would contribute additional wastewater inputs to a collection system that operates at or above capacity during storm events. However, payment of the “inflow/infiltration fees” and the sewage connection fee described above ensure that the proposed project would help improve the collection system by funding efforts to eliminate an equivalent volume of inflow and infiltration as the proposed wastewater flow to be contributed to the collection system by the proposed connection. Therefore, impacts resulting from the additional input of wastewater to the collection system by the proposed project would be less than significant. No further analysis is required.

The project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Implementation of the proposed project includes the construction of on-site storm drainage facilities. These facilities would be constructed on land that is currently vacant containing three different habitat types: coastal scrub, perennial grassland, and willow scrub which could be adversely impacted as a result of development of the passive recreational facilities of the proposed project. This issue is addressed in Section V.C (Biological Resources) of the Draft SEIR.

The project would have sufficient water supplies available to serve the project from existing entitlements and resources and new or expanded entitlements would not be needed. Water service at the project site and in the project area is provided through the North Coast County Water District (NCCWD). The water supply provided to NCCWD is subject to an agreement with the San Francisco Public Utilities Commission (SFPUC). The most recent Urban Water Management Plan (UWMP) prepared by the NCCWD indicates that under the current terms of the contract with the SFPUC, the NCCWD’s maximum supply (maximum wholesale allocation) is 3.84 mgd (4,301.04 acre feet per year). The UWMP projects a net production

requirement for 2030 of 3.80 mgd.⁴² Therefore, NCCWD's existing allocation is sufficient to meet this growth in demand. Changes in water demand presented as discussed in the UWMP are based on growth projections set forth in the City's General Plan. The UWMP projects that there will be approximately 12,357 residential sector connections and 74 irrigation connections by 2030. Since the proposed project is consistent with the land use designations set forth in the City of Pacifica General Plan, it has been accounted for in the NCCWD's UWMP and could be adequately served by existing water entitlements. Impacts are, therefore, less than significant and no further analysis of this issue is required.

The project would result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. Refer to Utilities and Service Systems above.

The project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. Solid waste generated by users at the project site and surrounding area is disposed of at the Ox Mountain Sanitary Landfill. Ox Mountain is a Class III Municipal Solid Waste Landfill which accepts all types of solid waste and is prohibited from accepting hazardous waste. The landfill is located at 12310 San Mateo Road (Highway 92) in Half Moon Bay. According to Solid Waste Facility Permit SWIS No. 41-AA-0002, the landfill has a designed capacity of 49 million cubic yards and an estimated closure year of 2023.⁴³ The Pacifica General Plan concludes that solid waste collection and disposal facilities are adequate for the development proposed within the General Plan.⁴⁴ Therefore, as the proposed project is accounted for in the General Plan projections and sufficient landfill capacity is available, project impacts would also be less than significant and no further analysis of this issue is required. During operation, the project would be serviced by Recology of the Coast for all waste collection services. Recology of the Coast services the entire City of Pacifica and operates a recycling center at 1046 Palmetto Avenue, Pacifica. As of January 2017, the City has extended their services with Recology to continue waste collection and increase the frequency of curbside recycling pickups.⁴⁵ Therefore, Recology of the Coast would have the capacity to serve the proposed development's solid waste collection needs.

⁴² North Coast County Water District. 2015 Urban Water Management Plan. http://www.nccwd.com/images/North_Coast_County_Water_District_2015_UWMP_June_15_2016.pdf

⁴³ California Integrated Waste Management Board (CIWMB), Solid Waste Facility Permit, SWIS No. 41-AA-0002, Issued June 26, 2001. <http://www.calrecycle.ca.gov/SWFacilities/Directory/41-AA-0002/Document?SITESCH=41-AA-0002>

⁴⁴ City of Pacifica. 1982. General Plan Community Facilities Element, pp.96. <http://www.cityofpacifica.org/civicax/filebank/blobdload.aspx?BlobID=10848>

⁴⁵ City of Pacifica. 2017. Residential Recycling. <http://www.cityofpacifica.org/about/environment/residential.asp>

The project would comply with federal, state, and local statutes and regulations related to solid waste. The construction and operation of the proposed project would be required to adhere to all applicable federal, State, and local statutes and regulations related to solid waste. Therefore, no impact would result with regard to compliance with federal, state, and local statutes and regulations related to solid waste, and no further analysis of this issue is required.

CUMULATIVE

The geographic scope for cumulative impacts related to utilities and service systems includes projects within Pacifica and beyond (Table III-1). Development of the project in combination with the cumulative projects listed in Table III-2 has the potential to have a cumulative impact related to utilities and service systems. The proposed project in combination with other cumulative projects would result in an increase in wastewater. Fees are paid for connection to the City wastewater collection system for the purpose of providing funds for eliminating an equivalent volume of inflow and infiltration as the proposed wastewater flow to be contributed to the collection system by the proposed connection (“inflow/infiltration fees”). The infiltration and inflow fee is used by the City to replace or repair sewer lines that have been identified by Wastewater staff as having problems being infiltrated with storm water runoff. In addition to the fees described above, the City of Pacifica Department of Waste Water Treatment collects sewage connection fees prior to issuance of a building permit. These fees are based on the type of development proposed (residential units, multi-family dwellings, commercial units). As with the proposed project, the applicants of the cumulative projects would be required to pay applicable fees related to the type of development proposed. Payment of these fees would fully mitigate any impact that the cumulative projects would have on wastewater. The City of Pacifica intends to construct and utilize the proposed wet weather flow equalization basin (“EQ basin”) and associated pipelines as a key element to mitigate storm-related sanitary sewer overflows (SSOs) in the City’s wastewater collection system and reduce peak wet weather flows to the City’s Calera Creek Water Recycling Plant.⁴⁶ Cumulative increases in solid waste would be within the capacity currently available and projected to be available at Ox Mountain Landfill. Future development projects within the City would also be subject to recycling and diversion efforts by the City. Therefore, based on the thresholds of significance cited above, cumulative utilities and service systems impacts would be less than significant.

⁴⁶ http://www.cityofpacifica.org/depts/wwt/waste_water_collection/default.asp

V. ENVIRONMENTAL IMPACT ANALYSIS

B. AESTHETICS

INTRODUCTION

This section addresses the subject of aesthetic resources, sometimes referred to as visual or scenic resources. A four-step process is used in this objective evaluation of visual resources. First, the existing visual character of the site and surrounding area as available to the public is documented. Second, existing scenic resources in the area are identified based on policies enumerated in the regulatory setting from the Open Space, Community Design and Scenic Highways Elements of the City of Pacifica General Plan. Third, the visibility of project itself is considered, relative to General Plan policies, zoning requirements, development codes and design guidelines affecting hillside development. Finally, the project is evaluated according to the four CEQA Guidelines Appendix G criteria for aesthetic resources, which include the project's potential to impact: 1) scenic vistas, 2) scenic highways, 3) the visual character of the site and surroundings, and 4) daytime glare and dark nighttime skies. All feasible mitigation measures are proposed to reduce potential visual impacts to less than significant, when possible.

Visually accurate simulations illustrating "before" and conceptual "after" conditions at the project site are provided from three representative, public vantage points and are part of the project analysis. Computer modeling and rendering techniques were used to prepare the three images.

The existing visual character of the project site is evaluated for its physical characteristics in the context of the surrounding setting and includes an evaluation of compatibility with surrounding land uses. The evaluation of visual character includes availability of specific views and the overall character of surrounding viewsheds. Viewsheds are groups of views with similar characteristics, and are defined by the available visible elements such as the horizon, topography, vegetation, roads, structures and other natural and manmade features that give an area its unique visual signature and context. Development of all types, when combined with the natural setting becomes part of the overall visual character of an area.

Publicly accessible views, such as those from streets, sidewalks, parks, scenic roads and vista points are the subject of this CEQA analysis. Key Observation Points (KOPs) are selected by the lead agency, from a broader array of photographs, to be representative of the most sensitive publically accessible views. KOPs typically show the entire project area from designated scenic resources, such as parks or scenic roads. Visual impacts of a project consider the effect of the visual change made by the project to the visible characteristics of an area. A negative change in the visual character of an area, or the obstruction of existing scenic vista which has typically been available to the general public would be considered an impact. Visual impacts at nighttime are evaluated by considering sources of additional light and glare from the project.

ENVIRONMENTAL SETTING

Regional Visual Character

The general topography of the San Mateo County area is characterized by sub-parallel, northwest trending mountain ranges and intervening valleys. The uplifted Santa Cruz Mountains define the ridge that separates the eastern and western portions of the County. Seventy-four percent of County land, primarily in the area west of Interstate (I-280), is in agricultural, watershed, open space, wetlands or parks use. Mild climate, abundant natural resources, rolling green foothills, stands of old redwoods, and creeks characterize western San Mateo County, providing many areas with high visual quality.

Western San Mateo County is primarily accessed by State Route-1 (Highway 1), which follows the Pacific coast from Mendocino County to Dana Point in Los Angeles County. Along the San Mateo County coastline, Highway 1 (Cabrillo Highway) is a well-known, highly recognized county designated, and state eligible scenic road. The region surrounding the project site is characterized by rolling hills descending from the ridges of the Coastal Range to the east, and the cliffs and sandy beaches on the Pacific Ocean to the west. A combination of valleys and open hillsides running to the ocean dominate the area's geography.

The immediate vicinity of the project site consists of hillside open space, and small residential neighborhoods near Fassler Avenue and Highway 1. The proposed project site sits on an undeveloped ridge that offers views to the Pacific Ocean from Fassler Avenue as motorists travel down towards Rockaway Beach and Highway 1.

Local Visual Character

The project is located in the southwest portion of the City of Pacifica in the Rockaway Neighborhood and is bounded by Fassler Avenue on the south, and open coastal hillsides to the north and east (Figure V.B-1). The hilly terrain slopes from a high point in the southeast portion (approximately 440 feet above mean sea level [msl]) of the site to a low point in the northwest region (240 feet above msl) of the project site. The average slope from the highest to lowest point on the project site is approximately 18 percent. A ridge about 50-foot high parallels Fassler Avenue for about two-thirds of length of the site, and eventually drops away to reveal views of Highway 1, Rockaway Beach, and Mori Point below and to the west.

The visual character of the site can generally be described as coastal hills with views of the ocean and distant Marin County. The site is primarily vegetated with coastal sage scrub, with some perennial grasslands and willow scrub. Two mature Monterey Cypress trees (one over 18 inches in diameter) are also on the lower northwestern edge of the project site. There are considerable infestations of invasive plant species including visible pampas grass and remnants of an old asphalt road, illegally dumped debris, and garden waste that clutter the small, flat portion of the lower western portion of the site.



Source: Imagery: Esri - NAIP 6-2014, 1/19/2016

Figure V.B-1 Photo Location Map

Fassler Avenue Residential Project SEIR, Pacifica, California



The area surrounding the project site is characterized by open space and more recently emerging low-density residential development primarily consisting of suburban neighborhoods dispersed among undeveloped hillsides. To the north of the project site the terrain drops quickly to a valley with older rural residential homes in it, and then more vegetated coastal hillsides rise above the level of the project site and continue northward. To the east, though mostly not visible from the project site, is a multi-unit housing development which sits on the north side of Fassler Avenue. Harmony @ 1 is a new single-family residential development currently under construction which is located just across Fassler Avenue to the south.

Visual Resources

The Photo Location Map (Figure V.B-1) also includes key visual resources within the project site and surrounding areas. These include the coastal zone, the Pacific Ocean, Highway 1, Fassler Avenue, elevated ocean views, and ridgelines. These resources are described in detail below.

Coastal Zone

The Coastal Zone includes all land west of Highway 1, as well as Sheldance Nursery and some land south of City limits. Highway 1, a portion of the coastline, and the Pacific Ocean are all visible looking north and west of the project site.

Scenic Vistas

The Open Space and Recreation and Community Design Elements of the City of Pacifica General Plan contain policies aimed in part to preserve the visual character of the City. The visual resources noted in this element are most importantly the City's hillsides and the Pacific Ocean. The 1980 City of Pacifica General Plan Community Design Element discusses the importance of protecting the City's important viewsheds and sometimes "rather delicate terrain of hillside areas" and includes policies to balance these values with the interests of local property owners and residents. The General Plan states that views of open space are as important as access to open space and viewsheds should be identified and protected. The Community Design Element designates Fassler Avenue adjacent to the project site as an important viewshed overlooking the ocean.

Scenic Roadways

The Scenic Highway Element of the General Plan describes the Linda Mar Boulevard – Oddstad – Terra Nova Boulevard – Fassler Avenue loop as "providing spectacular views of the coastal ridge and ocean and connecting major recreation areas (San Pedro Valley County Park, Sanchez Adobe, and the Discovery Trail at the end of Fassler Avenue) and points of historic interest and scenic beauty. As such, the General Plan proposes that the Linda Mar Boulevard – Oddstad – Terra Nova Boulevard – Fassler Avenue loop be considered for scenic roadway designation. The proposed project is within this proposed scenic roadway. Highway 1 is listed as eligible for the Scenic Highway Program and the project site is partially visible looking south from Highway 1. Defining views of Highway 1 include Fassler Ridge located to the south of the proposed project site.

Ridgelines and Skylines

The General Plan defines ridgelines as: “the tops of hills or hillocks normally viewed against a background of other hills.” Meanwhile, skylines are defined as: “the line where sky and land masses meet.” According to the General Plan Land Use Map for East Fairway Park – Vallemar – Rockaway area, there are no prominent ridgelines in the project site. There is however one ridgeline traveling through the project site. This ridgeline along with the underdeveloped lower slopes, are prominent features in the area and are visible traveling southeast and northwest along Fassler Avenue. The project site and ridgeline are also visible from Highway 1, Mori Point, and Rockaway Beach Avenue. Views from this ridgeline provide an elevated view of the Pacific Ocean and a panoramic coastal view.

Views of the Project Site

To visually guide the reader through the site the following descriptions and photographs are presented. These photographs include views from vantage points surrounding the project where the site is visible. This group of photographs is not an exhaustive collection of all the views that include the project site, but rather a representative set of views that clearly show the site and views of the surrounding area.

KOPs for the project site have been identified in order to provide the reader with locations that provide public visual access to the site as well as substantial visual duration. Three KOPs have been identified within these site photos given the existing visual character, viewer groups and sensitivity, and visual resources present. The Photo Location Map (Figure V.B-1) marks the locations of the KOPs, viewpoints, and visual resources in the area. The photographs are shown in Figures V.B-2 through V.B-5. Descriptions of the existing views seen in these photographs are provided below; these views can be affected by fog due to the City’s proximity to the Pacific Ocean

As discussed in Chapter III (Environmental Setting), other potential public vantage points in the general project area include the Golden Gate National Recreation Area located approximately 0.75 miles east of the project site, Oddstad Park located approximately 0.60 miles south of the project site, and Frontierland Park located approximately 1.5 miles southeast of the project site. The project site is not visible from any of the abovementioned public vantage points. Prominent public vantage points from which the site is visible are analyzed below. There are no areas designated by the City’s General Plan as Open Space in the general project vicinity. The General Plan designation for approximately 7.6 acres of the western portion of the site is Open Space Residential, which allows one unit per more than five acres. The remaining 3.6 acres is designated as Low Density Residential, which allows three to nine units per acre.

Figure V.B-2, View 1 is a long range view looking northwest from the project site towards the coastline. The foreground of the photograph includes the western portion of the site where the project is proposed. The land has been previously disturbed and dense low-growing vegetation now covers much of the area. In the middle-ground, two Cypress trees are present on the project site as well as remnants of an old asphalt road from when the site was used as a quarry.

The background features a dramatic view of the Pacific Ocean, Rockaway Beach, a portion of Highway 1, and nearby coastal hills with some stands of trees.



View 1: View from the project site looking northwest. The site is visible from about 800 feet of Highway 1, as visible in the distance.



View 2: View of the project site looking northeast from directly across Fassler Avenue.



View 3: View across the project site looking northwest from Fassler Avenue. This photo was selected as KOP 1 and shows the scenic vista from Fassler Avenue that contributed to its designation as a local scenic road.

Figure V.B-2 Views of the Project Site

Fassler Avenue Residential Project SEIR, Pacifica, California



Figure V.B-2, View 2 is a short-range view looking north towards and across the project site from directly across Fassler Avenue. The foreground of the photograph is occupied by the new driveway currently under construction as part of the Harmony @ 1 residential project. The middle-ground shows Fassler Avenue and the western portion of the site where the project would be located. The proposed entrance to the site would be across Fassler Avenue and to the right of the foreground driveway. This view would also be available to those viewers exiting the driveway for the Harmony @ 1. Behind the project site, slopes drop off dramatically into the valley to the north and more coastal hills across the valley form the background of the view. Views of the project site from this vantage are largely unobstructed with the exception of a streetlamp and vehicles traveling on Fassler Avenue.

Figure V.B-2, View 3 is from Fassler Avenue looking northwest across the western portion of the site to views of the Pacific Ocean and Marin County in the distance. This is the primary ocean view from Fassler Avenue and one reason it was designated in the City General Plan as part of the local scenic drive. For this reason it was selected as KOP 1. This is a highly traveled arterial from which the proposed project would be plainly visible in this view to all motorists. For those traveling down Fassler Avenue the project would occupy this, the highest quality view towards the ocean from Fassler Avenue. The duration in which the project would be visible would however be relatively short. To the right (not visible in the photo) is the larger eastern portion of the site which has the 50-foot high ridge paralleling Fassler Avenue which prevents ocean views from further up the road.

Figure V.B-3, View 4 is a medium-range view looking up Fassler Avenue to the southeast towards the project area. In the foreground Fassler Avenue curves up to the site which is centered and approximately 600 feet from the photo point. The coastal hills with sage scrub vegetation and occasional trees are the primary elements with Fassler Avenue and a single roofline interrupting the otherwise naturally appearing landscape. The residential development that exists to the east of the project site's boundary is not visible due to the topography of the project site. The natural ridgeline is continuous except for where Fassler Avenue reaches the top of the hill. In the middle-ground, the two large Cypress trees are visible on the project site. To the right (south) the entrance to the Harmony @ 1 residential development is visible. Views of the project site are unobstructed and would be seen for a relatively long duration by all motorists traveling east on Fassler Avenue. For this reason this view was selected as KOP 2.

Figure V.B-3, View 5 is a long-range view of the project site looking southeast from the intersection of Rockaway Beach Avenue and Highway 1. This is a highly traveled intersection that provides access to Highway 1; therefore, a high number of viewers would have visual access to the project site for the duration of their time at the intersection. The foreground of this photograph is occupied with vehicles traveling through the intersection. The middle-ground reveals the nearby residential neighborhood which is generally northwest of the project. The elevated ridgeline on which the project is located is also the horizon line where the sky meets the land. Due to the raised elevation on the ridge, the project site is directly visible from this intersection.



View 4: View of the project site looking east from Fassler Avenue. One rooftop is visible at the end of Fassler Avenue. This photo was selected as KOP 2 to portray the project as viewed while going up Fassler Avenue.



View 5: View of the project site looking southeast from the intersection of Rockaway Beach Avenue and Highway 1.



View 6: View of the project site looking south across Highway 1, a state eligible scenic highway. The site is about 2,000 feet away and is visible for about 800 feet along Highway 1. This image was selected as KOP 3.

Figure V.B-3 Views of the Project Site

Fassler Avenue Residential Project SEIR, Pacifica, California



Figure V.B-3, View 6 is a long-range view of about 2,400 feet to the project site from Highway 1. Highway 1 is eligible for scenic highway status and is highly traveled. For these reasons this view was selected as KOP 3 to represent similar views from Highway 1. Vehicles traveling south along Highway 1 at this location would see the project site for potentially a relatively long duration, as they wait for the light to change at Rockaway Beach Avenue. Similar views, though from a slightly longer distance with fewer obstructions, are available just to the north from an 800-foot long portion of Highway 1. Motorists traveling south on Highway 1 would have views toward the same ridgeline with the project site visible for approximately 10 seconds. In this view the foreground is occupied with Highway 1 and homes immediately adjacent to the highway. The middle-ground of this view shows the adjacent neighborhood and a few large trees. In the background is the coastal ridgeline or horizon line where the sky meets the land, where the project site is located. The raised elevation of the project site on the ridgeline allows direct views up to the project site from this perspective. Larger trees in the middle-ground of this photograph do obstruct views of the project site for brief periods while traveling along Highway 1.

Figure V.B-4, View 7 is a medium-range view looking southeast from the intersection of Buel Avenue and Ebken Street in the Rockaway Beach neighborhood. The foreground is occupied by the residential street. The middle ground contains residential homes and associated storage structures such as garages and tool sheds. Tall trees and dense vegetation are in the background of this view and reach heights that block the hills that lie beyond this immediate area. As such, views of the project site in pre-project conditions are not visible from this view.

Figure V.B-4, View 8 is a short-range view looking southwest from the project site towards the Harmony @1 residential area (View 8 and View 9 below are two parts of one panoramic view looking southwest). The foreground in the left side of the photograph shows the elevated ridge that parallels Fassler Avenue throughout the eastern portion of the site, and also where that ridge begins to descend towards the western portion of the site. Fassler Avenue, visible in the lower right of the photograph cuts between the ridge and the Harmony @ 1 development in the distance. The roads under construction for the Harmony @ 1 residential project are visible in this view. The background or horizon in this view shows the distant coastal mountains that lie beyond the immediate area.

Figure V.B-4, View 9 is a medium-range view looking southwest from the same vantage point as View 8 (above) from the center of the project site (View 8 and View 9 below are two parts of one panoramic view looking southwest). The foreground of the photograph shows the northwestern edge of the project site adjacent to Fassler Avenue. The photograph is taken from the ridge on the project site. The middle-ground of the view shows the new entrance for the Harmony @ 1 residential development project and the roadway construction which is highly visible across Fassler Avenue. In the background, distant coastal hills and the Pacific Ocean are visible.



View 7: View towards the project site looking south from Ebken Street. The project site is not visible as it is located behind and above the trees seen in this photo.



View 8: Left side of panoramic view from the project site looking south across the coastal hills and Fassler Avenue (lower right) to the new residential roadway under construction for the Harmony housing development.



View 9: Right side of the above panoramic view looking southwest across Fassler Avenue to the new road for the Harmony housing development. The primary project development site is visible in the lower right side of the photo.

Figure V.B-4 Views of the Surrounding Uses

Fassler Avenue Residential Project SEIR, Pacifica, California



Figure V.B-5, View 10 is an elevated long-range view looking northwest across the entirety of the project site from the opposite side of Fassler Avenue. To the right of Fassler Avenue is the project site with the 50-foot high ridgeline, which is actually the road cut for Fassler Avenue, which parallels the road. The resulting topography on both the north (right) and south (left) sides of the road limit views to the Pacific Ocean from the upper portion of Fassler Avenue. Because the view is elevated, portions of Rockaway Beach are also visible. Multiple trees on the site are also visible. The background of the view contains expansive views of the Pacific Ocean, coastal hillsides, and Marin County in the far distance.

Figure V.B-5, View 11 shows the neighborhood, just off of Highway 1, to the north of the project site. The foreground and middle-ground includes the residential area along Ebken Street. Tall trees form a backdrop behind the residences. The distant ridgeline is generally not visible behind the trees, but in the far left corner the coastal hills are apparent.

Figure V.B-5, View 12 looks toward the project site from the intersection of Roberts Road and Fassler Avenue. Roberts Road and Fassler Avenue dominate the foreground of this view. Roberts Road provides access to the Harmony @ 1 development and evidence of new construction is visible along the sidewalk.

Light and Glare

There are currently few sources of light and glare on the project site. Street lighting is placed at regular intervals along Fassler Avenue and headlights and windshield reflections from vehicles on Fassler Avenue are the primary sources of light and glare in the area. Some new areas of low-density residential development will emit light south of Fassler Avenue. The eastern portion of the project site is more affected by light spillover from the adjacent neighborhood whereas the northern and western portions of the site experience very little light spill-over from developed areas. Sources of light and glare are minimal at the proposed project site and during the nighttime hours, the site is generally a dark sky setting.



View 10: View across Fassler Avenue and the upper eastern portion of the project site looking northwest to Rockaway Beach in the midground, with the Pacific Ocean and Marin County in the background.



View 11: View of neighborhood residential land uses located to the north of the project site along Ebken Street.



View 12: View of surrounding undeveloped land at the intersection of Roberts Road and Fassler Avenue. The land to the right is part of the housing development project across Fassler Avenue from the project site.

Figure V.B-5 Views of Surrounding Uses

Fassler Avenue Residential Project SEIR, Pacifica, California



REGULATORY SETTING

Federal

There are no Federal policies or mandates related to aesthetics that directly affect the project site. The Crystal Springs Reservoir however is located nearby, on the east side of the Santa Cruz ridge overlooking the City of San Mateo and I-280 corridor to the southeast of the project site. An approximately 19,000-acre scenic easement covers the land west of the reservoir and is managed by the Golden Gate National Recreation Area (GGNRA).¹ This sizable scenic easement is outside of the Pacifica viewsheds and does not affect the project.

State

Local Coastal Plan

The Coastal Zone in Pacifica is west of Highway 1 and does not directly affect the project site.

Discussion of the California Coastal Act (CCA) is however provided here for context to the visual issues affecting California Coastal Communities. The CCA requires every city and county lying partly or wholly within the Coastal Zone to prepare a Local Coastal Plan (LCP). The LCP consists of a local coastal land use plan or plans; zoning ordinances; zoning district maps; and other actions which taken together implement the Coastal Act provisions. The Plan addresses the preservation and enhancement of coastal views, viewsheds, and vegetation and the following conclusions have been made:

- (1) New development within the viewshed shall not destruct the views to the sea from public roads, trails, and vista points. Methods of achieving this could include height limitations which keep structures below the sight line, clustering structures to protect view corridors, careful placement of landscaping to shield structures, but leave the view unobstructed; use of natural appearing materials and color on new buildings, limit outdoor lighting, underground utility lines, maximizing views of the sea in aligning new roadways, bicycle and pedestrian paths, use of open work fences where fencing is necessary within the sight line.
- (2) Views of the coast and coastal panorama from public roadways shall be protected by limiting the height and mass of permitted structures, as well as clustering structures to be unobtrusive and visually compatible with landforms.

¹ *Peninsula Watershed Management Plan Final Environmental Impact Report. January 11, 2001.*
<http://www.sfwater.org/Modules/ShowDocument.aspx?documentID=4343>

- (3) Locations which offer open views of the coast shall be developed for public coastal viewing if this can be accomplished without excessive damage to the moderately sensitive vegetation.

California Scenic Highway Program:

The California Scenic Highway Program² was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways. The State Scenic Highway System includes a list of highways that are both eligible for, and designated as scenic highways. The section of Highway 1 passing through Pacifica is eligible for the Scenic Highway Program and therefore for the purpose of this evaluation, Highway 1 is considered a scenic highway.

The scenic corridor is the designated area of the surrounding landscape that is visible to a motorist from a scenic highway, typically bounded by views to the distant horizon, which in the case of Highway 1 would include the project site. The scenic corridor designation does not preclude development, but seeks to encourage quality development that does not degrade the scenic value of the corridor.

Scenic corridor protection typically includes: regulation of land use and density of development; site planning evaluations; control of outdoor advertising; attention to and control of earthmoving and landscaping; and attention to design and appearance of structures and equipment including citizen participation in developing those requirements.

Scenic Easements

GGNRA land and the Crystal Springs scenic and recreation easement are to the east of the project site but would not affect or be affected by the GGNRA lands nor the easement within them.

Local

General Plan

The 1980 City of Pacifica General Plan Open Space, Recreation, and Community Design Elements include several policies that are applicable to aesthetics. Each Element contains strategies, policies and recommendations to implements these policies.

2 California laws governing the Scenic Highway Program are in the Streets and Highways Code, Section 260 et seq.

Open Space Element

Policy 1: Retain open space which preserves natural resources, protects visual amenities, prevents inappropriate development, provides for the managed use of resources, and protects the public health and safety.

Policy 3: Encourage development plans which protect or provide generous open space appropriately landscaped. Balance open space, development and public safety, particularly in hillside areas.

Short Term 3: Views of open space are as important as access to open space. Viewsheds should be identified and protected.

Community Design Element

Policy 3: Protect the City's irreplaceable scenic and visual amenities.

Scenic Highways Element

Fassler Avenue is part of a proposed scenic corridor described in the General Plan. The General Plan recommends protection and enhancement of the scenic qualities of the affected roads that make up the scenic loop, and adoption of a scenic protection program.

Municipal Code

The City of Pacifica Municipal Code includes the Zoning Ordinances of the City as well as definitions and regulations for development within those zoning codes. The General Plan designation for approximately 7.6 acres of the western portion of the site is Open Space Residential, which allows one unit per more than five acres. The remaining 3.6 acres is designated as Low Density Residential, which allows three to nine units per acre. The zoning for the project site is Planned Development District (P-D), a classification designed to allow diversification of the relationships of various buildings, structures and open spaces in planned building groups, while ensuring compliance with district regulations. Development under the P-D District is implemented through adoption of a development and specific plan.

Development Regulations

Regulations for building heights for P-D District projects are guided by the regulations of the residential, commercial, or industrial zoning districts. A maximum height of 35 feet is

allowed in Multiple-Family Residential Districts.³ The proposed project includes multiple buildings that exceed this height limit and therefore a Height Variance would be required.

Variances

The City of Pacifica Planning Commission shall grant a variance only when all of the following findings are made:

- (1) That because of special circumstances applicable to the property, including size, shape, topography, location, or surroundings, the strict application of the provisions of this chapter deprives such property of privileges enjoyed by other property in the vicinity and under an identical zoning classification;
- (2) That the granting of such variance will not, under the circumstances of the particular case, materially affect adversely the health or safety of persons residing or working in the neighborhood of the subject property and will not, under the circumstances of the particular case, be materially detrimental to the public welfare or injurious to property or improvements in the area;
- (3) Where applicable, that the application is consistent with the City's adopted Design Guidelines; and
- (4) If located in the Coastal Zone, that the application is consistent with the applicable provisions of the Local Coastal Plan.

On the basis of such findings, the Commission may grant, conditionally grant, or deny the application for a variance.

In granting any variance, the Commission shall impose such conditions as will ensure that the adjustment thereby authorized shall not constitute a grant of special privileges inconsistent with the limitations upon other properties in the vicinity and zone in which such property is situated.

Hillside Preservation District (HPD)

The proposed project is within the City's Hillside Preservation District (HPD). Properties proposed for development within the Hillside Preservation District must be rezoned to "Planned Development," which requires a Development Plan and Specific Plan approval. The purpose of the HPD is as follows:

- To maximize choice in types of environment available in the City and particularly to encourage variety in the development pattern of the hillsides;
- To concentrate dwellings and other structures by clustering and/or high rise should be encouraged to help save larger areas of open space and preserve the natural terrain;

³ According to the Municipal Code, "Height of Buildings" is defined as "the maximum vertical distance, measured at the finished grade, between the lowest point on the site covered by any portion of a building to the top most point of the roof."

- To use to the fullest current understanding of good civic design, landscape architecture, architecture, and civil engineering to preserve, enhance, and promote the existing and future appearance and resources of hillside areas;
- To provide density and land use incentives to aid in ensuring the best possible development of the City's natural features, open space, and other landmarks;
- To encourage the planning, design, and development of building sites in such a fashion as to provide the maximum in safety and human enjoyment while adapting development to, and taking advantage of, the best use of the natural terrain;
- To preserve and enhance the beauty of the landscape by encouraging the maximum retention of natural topographic features, such as drainage swales, streams, slopes, ridge lines, rock-outcroppings, vistas, natural plant formations, and trees;
- To prohibit, insofar as is feasible and reasonable, the padding or terracing of building sites in the hillside areas;
- To provide safe means of ingress and egress for vehicular and pedestrian traffic to and within hillside areas while at the same time minimizing the scarring effects of hillside street construction;
- Utility wires and television lines shall be installed underground;
- Outstanding natural physical features, such as the highest crest of a hill, natural rock outcroppings, major tree belts, and the like, should be preserved;
- Roads should follow natural topography wherever possible to minimize cutting and grading;
- Imaginative and innovative building techniques should be encouraged to create buildings suited to natural hillside surroundings; and
- Detailed and effective arrangements shall be formulated for the preservation, maintenance, and control of open space and recreational lands resulting from planned unit development.

Design Guidelines

The City of Pacifica has adopted Design Guidelines to maintain the quality of the City's physical development where desirable attributes exist, and to improve the quality of development where such attributes are lacking. The Guidelines are intended to:

- Ensure a minimum standard of design through the application of consistent policies.
- Encourage new construction which exceeds minimum standards and discourage construction which falls short of those standards.
- Provide a framework for review and evaluation of design proposals.

- Implement applicable General Plan and Local Coastal Plan goals and policies.
- Expedite and facilitate the planning permit process.
- Provide direction for design and redesign of projects.

The Design Guidelines include general guidelines that address site planning, building design, landscaping, and water conservation. They also include guidelines that address specific types of development and special problems including substandard lots, infill development and multi-unit development guidelines which are most applicable to the project site. City staff will provide an assessment of the proposed project's consistency with these guidelines as part of the City's standard design review process.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Based on Appendix G of the *CEQA Guidelines*, the project would generally be considered to have a significant impact on the environment if it would:

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

Aesthetics Issues Not Further Analyzed

All of the four aesthetics topics listed above are analyzed below after the introduction of the visual characteristics of the project.

Visual Characteristics of the Project

The Fassler Avenue Residential Project is proposed at 801 Fassler Avenue and consists of 24 condominium units in 12 duplex buildings as described in Section IV, Project Description (see Figures IV-1 and IV-2). The proposed project is to be developed generally within the same building footprint as the Prospects Residential Project⁴ that was previously approved by the City

⁴ In 2004, the Prospects Residential Project was submitted with 34 residential units, a subterranean parking garage, and associated amenities in the western two acres of the project site. In 2007, the

of Pacifica. Some of the design and construction details differ from the prior project, including project layout, garages and surface parking, access, an above-grade loop road, building heights, and stormwater management. A comparison of the proposed project to the 2004 Prospects Project is provided in in Section IV (Project Description) Table IV-7.

The majority of the proposed project would be surrounded by screen buffer trees whereas accent trees would be planted at the project entrance, including the proposed water quality basin, and along the private driveway. As illustrated in Figure IV-6, much of the existing on-site vegetation within the development footprint would be removed, and new native and non-native vegetation would be re-introduced. The elevations and landscape plan (Figures V.B-6 through V.B-8) show the location of the planned trees and vegetation, as well as the proposed color palette for the buildings.

Table IV-1 (Hillside Preservation District Coverage Summary) in Section IV (Project Description) compares the 53,627 square feet of proposed development to the 53,665 square feet maximum allowable development for the area, illustrating the project's compliance with the HPD land coverage. Table IV-2 (Building Summary) in Section IV (Project Description) describes the maximum heights for the proposed buildings, with the building heights ranging from 31'-1" to 44'-5". As previously mentioned the maximum building height for this zoning designation is 35 feet.

The lighting plan would include night lighting for the private drive, common driveways, parking areas, and walkways. Lighting would cast downward and would be shrouded to prevent glare and spillover of light. Walkways and pathways would have low level lighting to help identify the route. The project site lighting would be designed to comply with Leadership in Energy and Environmental Design (LEED) light pollution reduction requirements, as well as the Design Review guidelines. Each of these seven common open space areas is illustrated in Figures IV-2 and IV-6 in Section IV (Project Description) and include: upper and lower picnic areas, butterfly and hummingbird garden, and a 5-6' wide pathway consisting of decomposed granite that connects the proposed residential uses with the picnic areas, garden, and other proposed common open space areas.

City certified a Final EIR and approved the project with 29 residential units. The entitlements for that project have since lapsed and no building permits were issued by the City.



BLDG C (LEFT)

BLDG E (REAR)

BLDG D (REAR)

BLDG B (RIGHT)

Source: SDG Architects, Inc., 9/11/2015

Figure V.B-6. North Elevation

Fassler Avenue Residential Project SEIR, Pacifica, California

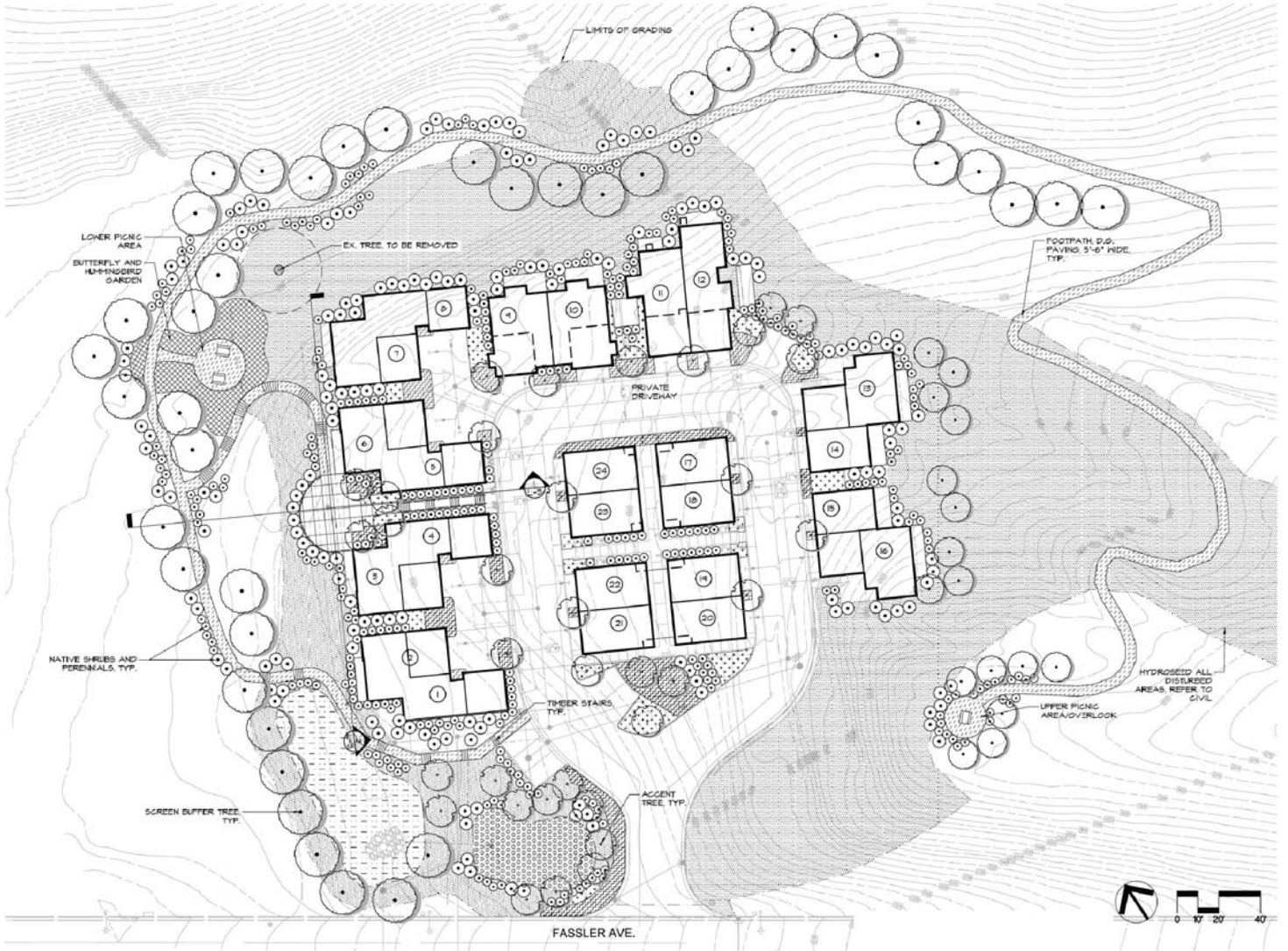




Source: SDG Architects, Inc., 9/11/2015

Figure V.B-7 South Elevation

Fassler Avenue Residential Project SEIR, Pacifica, California



Source: Callander Associates, 9/11/2015

Figure V.B-8 Landscape Plan

Fassler Avenue Residential Project SEIR, Pacifica, California

Project Impacts and Mitigation Measures

Computer-generated visual simulations illustrating "before" and conceptual "after" visual conditions at the project site as seen from three representative, public vantage points are presented for analysis. Figure V.B-1 (Photo Location Map) illustrates the locations of the KOPs which were used for the visual simulations. Digitized photographs and computer modeling and rendering techniques were used to prepare the simulation images (Figures V.B-9, V.B-10, and V.B-11).

Impact AES-1: Impacts on Scenic Vistas

The Community Design Element of the City's General Plan identifies the portion of Fassler Avenue adjacent to the project site as an important viewshed in the City. Views from Fassler Avenue, across the project site are panoramic views to the coastline, beaches, the Pacific Ocean, and include distant views of Marin County as well as views of nearby coastal hillsides.

The combination of the project site location and the surrounding topography provides high quality views of the Pacific Ocean that would be affected by the project. The proposed project would be visible to motorists traveling along Fassler Avenue, from portions of Highway 1, and from the western portion of the Rockaway Beach neighborhood.

KOP 1 (Figure V.B-9) shows how the proposed project would change the character of this view from one dominated by a dramatic vista of the Pacific Ocean, with a local beach, and coastal hills including Mount Tamalpais in Marin County, to a close-up view of a relatively large multi-family housing development on the hillside. The introduction of the proposed project changes this view substantially by blocking more than half the ocean view that currently exists without the project. The project would dominate the foreground, changing the visual character of the area by blocking ocean views and views of the nearby coastal hills. Project landscaping further blocks views and adds a suburban character to the landscape. The visual character of the area would shift from open space to built-up suburban residential. As such Fassler Avenue, a locally designated scenic road, would have its primary scenic vista, which is currently available to the public, permanently blocked as a result of the project.

KOP 2 (Figure V.B-10) shows the project on the way up Fassler Avenue. The existing condition is dominated by views of the coastal hills, including the project site. One rooftop is visible at the far end of Fassler Avenue, and to the right is the new roadway from the Harmony @ 1 project. Otherwise very little development is evident other than Fassler Avenue itself. The future condition shows that the project would obscure a portion of the hillsides that are currently visible from this perspective and the rooflines would also obscure some of the skyline. Detailed views of vegetation are still available in the foreground and background vegetation is replaced by landscaping. The visual character of KOP 2 looking up into the coastal hills would change from one dominated by open space to a view dominated by a multi-family housing development in the coastal hills.



Existing Condition: This view is the highest quality scenic vista available from Fassler Avenue, a part of a scenic loop identified in the City General Plan. On a clear day, the view includes Point Reyes National Park and Mount Tamalpais State Park in the distance. Ocean views diminish quickly while traveling down Fassler Avenue.



Proposed Condition: The project would be 300 to 500 feet away, would occupy over half of the scenic vista and permanently block views of the Pacific Ocean, while new landscaping will grow into the view. The project creates a significant impact on this quality scenic vista.

Figure V.B-9 KOP 1. View looking down Fassler Avenue

Fassler Avenue Residential Project SEIR, Pacifica, California





Existing Condition: The natural uninterrupted ridgelines and coastal sage scrub vegetation are primary elements in the view headed up Fassler Avenue. A single roof-top at the end of Fassler Avenue is visible and the driveway from the Harmony @ 1 housing development is on the far right.



Proposed Condition: The project would be about 600 feet away and visible to motorists as they travel Fassler Avenue. The project would block views of the coastal hills and break the horizon with rooftops. Native vegetation would be replaced with landscaping.

Figure V.B-10 KOP 2. View looking up Fassler Avenue

Fassler Avenue Residential Project SEIR, Pacifica, California





Existing Condition: The project site, centered on the ridge, is visible from Highway 1, from about 800 feet to the north (Left) to the Rockaway Beach Avenue intersection (Right), where traffic faces the site. Highway 1 is a state eligible scenic highway. An existing hillside housing project is visible on the left side of the ridge.



Proposed Condition: The vegetated ridge would be replaced with the project that would be atop the ridge at a distance of 2,400 feet. Intermediate vegetation would filter views here, but not other more distant and direct views from the north. The project would also be directly visible from the Rockaway Beach Avenue intersection.

Figure V.B-11 KOP 3. View looking up Fassler Avenue

Fassler Avenue Residential Project SEIR, Pacifica, California



KOP 3 (Figure V.B-11) is a distant view of the project from Highway 1. The viewpoint is more than 2,400 feet away and is provided to document the effect of the project on the view from Highway 1, a state eligible scenic highway. From Highway 1, there are numerous places where the project would be visible, including the Rockaway Beach intersection (View 5 in Figure V.B.5), an 800-foot section to the north, and this view (KOP 3). The site is elevated and visible and the project would be skylined in this view.

In general, implementation of the proposed project would affect scenic vistas from and through the project site. Specifically, as discussed above, impacts would be significant from multiple points along Fassler Avenue, particularly above the project. Landscaping could reduce impacts in some cases, but extensive landscaping, particularly with trees would further block views of scenic vistas. In some cases, lower landscaping could effectively camouflage the project site. As shown in the aforementioned post-project views, implementation of the project would substantially alter scenic vistas by partially blocking currently unobstructed views of the Pacific Ocean and nearby undeveloped areas. As such, the proposed project would result in a significant impact to scenic vistas. Mitigation Measure AES-1 described below would reduce impacts related to scenic vistas; however, these impacts would not be eliminated to a level of less than significant. Impacts would remain **significant and unavoidable**.

Mitigation Measure AES-1

- The proposed landscape plan dated August 11, 2015 shall be updated to be consistent the most recent version of the grading and drainage plan dated February 2016, particularly for the project detention basin and water quality basin and for the slope on the northern edge of the project site.
- The proposed landscape plan shall minimize the use of trees and vegetation over four feet in height on the southwest corner and along the western boundary of the site to preserve views to the Pacific Ocean and Marin County from Fassler Avenue.
- Trees on the south and west elevations shall be placed as close as possible to the building for effective screening and shading and also placed to avoid blocking views from Fassler Avenue to the Pacific Ocean.

Impact AES-2: Impacts on Scenic Resources from a Scenic Highway

The proposed project is visible above the ridgeline from within the view corridor of Highway 1, an eligible state scenic highway, as shown in KOP 3 (Figure V.B-11). Also views along Fassler Avenue are a scenic resource according to the City's General Plan. The City proposes to designate Fassler Avenue as part of a scenic loop following the Linda Mar Boulevard – Oddstad – Terra Nova Boulevard – Fassler Avenue alignments. As discussed under Impact AES-1, implementation of the proposed project would substantially alter the scenic resources available from Fassler Avenue. As such, the proposed project would substantially damage scenic resources within an eligible scenic highway, resulting in a significant impact. Mitigation Measure

AES-1 would reduce impacts related to scenic resources in a scenic highway, but not to a less-than-significant level. Impacts would therefore remain **significant and unavoidable**.

Impact AES-3: Impacts on Visual Character of the Project Site and Surroundings

The visual character of the project site can generally be defined as open coastal hills with scenic views to the Pacific Ocean and nearby low-intensity development. The primary defining features are the hillsides covered with coastal sage scrub vegetation and the views of the Pacific Ocean to the west. Currently, there is limited residential development visible in the immediate project area, though new residential access roads are visible on the adjacent parcel to the south. Additionally, the Sea Crest residential development to the east is visible, but only from further up Fassler Avenue away from the project site. As such, the project would add residential development to an otherwise vacant site, and would substantially change the existing scenic visual character of the undeveloped site to become a residential development. Proposed project development is concentrated on the western 4.6 acres of the site while the majority of the eastern portion would remain undeveloped. It is this western portion of the site that becomes flatter, which allows views to open up to the Pacific Ocean and Marin County, where concentrated development is proposed. This would be a permanent significant impact to the publically available views of the ocean from Fassler Avenue, and would permanently degrade the visual character of the site. Mitigation Measures AES-1 and AES-2 would reduce impacts to the visual character of the site and surroundings, but not to a less-than-significant level. Impacts would therefore remain **significant and unavoidable**.

Mitigation Measure AES-2

- Protection of existing trees on the northern elevation shall be maximized. Removal of existing trees shall be limited to conditions where future grading requirements would absolutely preclude the viability of an existing tree after construction.
- Foundation plantings shall maximize use of native vegetation and be as visually compatible with the existing coastal sage-scrub plant community as possible.
- Landscaping shall include vegetation management of the entire parcel so as to eliminate invasive species on the site within five years and replace it with native and flowering vegetation capable of thriving without irrigation after the initial establishment period.
- Colors used for exterior building surfaces shall be as dark as possible to minimize the contrast of the structures to the surrounding coastal hills. Colors shall also be selected to minimize contrast with the horizon, particularly on the north and west elevations when structures are back-dropped by skyline. Several colors shall be used to minimize uniformity.
- Prior to building permit issuance, the grading plan, development plan, landscaping plan, sign plan, elevations, and colors and materials shall receive

review and approval of the City of Pacifica staff through the design review procedures with the Planning Commission during approval of the Specific Plan.

Impact AES-4: Light and Glare Impacts

Implementation of the proposed project would introduce new sources of light and glare into the project area. The introduction of light and glare from the proposed project would be noticeable to viewers in the surrounding area, particularly to drivers traveling along Fassler Avenue and to nearby residents. Currently, a lighting plan is not available for the project. Impacts are therefore considered to be potentially significant.

However, most homes emit some light and glare during evening hours as is typical in residential areas. The proposed project would include indoor lighting, and outdoor lighting for safety purposes, that would be visible from a distance. Adherence to Mitigation Measure AES-3 would ensure that outdoor lighting would be designated to minimize glare and spillover to surrounding properties. The proposed project's exterior lighting would be similar to what exists at nearby residential areas. Regarding daytime glare, the project would use non-mirrored glass. Implementation of Mitigation Measure AES-3 would ensure that all applicable guidelines are integrated into the proposed project. As such, impacts are considered ***less than significant*** after implementation of Mitigation Measure AES-3.

Mitigation Measure AES-3

Prior to issuance of the building permit, an exterior lighting plan shall be submitted for review and approval by City staff. The lighting plan shall include but not necessarily be limited to the following:

- The exterior lighting plan shall show all potential light sources with the types of lighting and their locations.
- Exterior lighting shall include low mounted, downward casting and shielded lights that do not cause spillover onto adjacent properties and the utilization of motion detection systems where applicable.
- No flood lights shall be utilized.
- Lighting shall not "wash out" structures or any portions of the site.
- Low intensity, indirect light sources shall be required.
- On-demand lighting systems shall be required.
- Mercury, sodium vapor, and similar intense and bright lights shall not be permitted except where their need is specifically approved and their source of light is restricted.
- All light sources shall be fully shielded from off-site view.

- All buildings and structures shall consist of non-reflecting material or be painted with non-reflective paint.
- Generally, light fixtures shall not be located at the periphery of the property and should shut off automatically when the use is not operating. Security lighting visible from Fassler Avenue shall be timed to adjust to seasonal differences. (Motion-sensor activated outdoor security lighting is not recommended since deer and other animals will trigger the sensors causing the lights to go on and off repeatedly).
- All lighting shall be installed in accordance with building codes and the approved lighting plan during construction.

CUMULATIVE IMPACTS

Cumulative Significance Criteria

For purposes of this SEIR, the proposed project would have a significant cumulative effect if:

- the cumulative effects of related projects (past, current, and probable future projects) are not significant and the incremental impact of implementing the proposed project is substantial enough, when added to the cumulative effects of related projects, to result in a new cumulatively significant impact; or
- the cumulative effects of related projects (past, current, and probable future projects) are already significant and implementation of the proposed project makes a considerable contribution to the effect.

The standards used herein to determine considerability are that either the impact must be substantial or must exceed an established threshold of significance.

Cumulative Analysis

The geographic scope for cumulative impacts related to aesthetics would include projects within Pacifica particularly those in the same viewshed as the project (Table III-1). The related projects listed in Section III (Environmental Setting) consist of projects of various land uses, including (but not limited to) single-family residential, multi-family residential, commercial, and retail. As shown in Table III-2 (Cumulative Projects), there is one project located within the project vicinity, the Harmony @ 1 project at 4700 Fassler Avenue. The remaining other projects are further than 0.35 miles away from the proposed project and are not within the same viewshed as the proposed project. The Harmony @ 1 project is currently under construction and the 2007 Final EIR for this related project determined that potentially significant aesthetics impacts would be reduced to a less-than-significant level via project design and mitigation measures. However, the proposed would result in significant and unavoidable impacts to scenic

vistas, scenic resources from a scenic highway, and visual character, and less than significant light and glare impacts after mitigation.

With new roads and a primary entry gate visible, the Harmony @ 1 residential housing project has affected the otherwise natural views from Fassler Avenue, a proposed scenic roadway according to the City's General Plan, which designates Fassler Avenue as part of a scenic loop following the Linda Mar Boulevard – Oddstad – Terra Nova Boulevard – Fassler Avenue alignments. In the same location, but across Fassler Avenue, the proposed project would also be visible and together the two projects add roads and housing units on either side of Fassler Avenue to create a significant cumulative visual impact to the Fassler Avenue scenic loop.

Due to the construction of the Harmony @ 1 project the local visual character of land to the south of the project site is no longer characterized by undeveloped land. Because the proposed project site is also largely undeveloped, the two projects together would contribute to incremental adverse changes in the visual character of the site and surroundings which would therefore be a cumulative impact under this criterion. Further, increases in nighttime lighting in the general project area would compound the changes to the nighttime visual character of the site and surroundings, further adding to the cumulative impact to the visual character criterion.

The lighting impacts from the project would be mitigated to the fullest extent possible to be less than significant, but the site is the last remaining undeveloped and dark nighttime site on Fassler Avenue located between a developed and well lit commercial area along Highway 1 to the west, and an illuminated residential development to the east. The project, in combination with new homes at Harmony @1 overlooking Fassler Avenue would contribute to cumulative impacts by adding nighttime lighting in a currently dark nighttime location.

In total, the project's contribution to impacts on scenic resources is cumulatively considerable when considering impacts to the scenic vistas, visual character of the site and surroundings, the negative impacts to dark nighttime skies, and impacts to a locally designated scenic highway.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project impacts related to scenic vistas, scenic resources in a scenic highway, and visual character would be **significant and unavoidable**. Project impacts from light and glare would be **less than significant** after mitigation.

V. ENVIRONMENTAL IMPACT ANALYSIS

C. BIOLOGICAL RESOURCES

INTRODUCTION

This section of the Draft SEIR provides a general description of biological and wetland resources on the site, information on regulations that serve to protect sensitive resources, and an assessment of the potential impacts of implementing the proposed project.

The assessment of potential impacts on biological and wetland resources involved the review of available information, including detailed surveys and mapping of the site, and conducting several reconnaissance-level biological surveys to confirm existing conditions on the site. Available literature and resource mapping reviewed include the following: past environmental studies for the site and vicinity^{1,2}; the occurrence records for special-status species and sensitive natural communities maintained by the California Natural Diversity Data Base (CNDDDB) of the California Department of Fish and Wildlife (CDFW)³; the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants of California*,⁴ and numerous other information sources. Three reconnaissance-level biological surveys were conducted by biologists in July 22, 2006; June 17, 2014; and October 8, 2015.

The following provides a summary of the past studies and mapping that form the primary basis for the existing conditions on the site. These reports can be found in Appendix C. These consist of the following:

- *Revised Biological Assessment Report* prepared by Thomas Reid Associates for Pacific Quarry Homes.¹ This report was based on a survey conducted by biologists on April 23, 2004. The report provides a general description of vegetation and wildlife resources, potential for occurrence of special-status species, assessment of potential impacts, and recommended mitigation measures.

¹ Thomas Reid Associates, 2005, *Revised Biological Assessment Report for Fassler Avenue Property, APN 022- 083-020 and 022-083-030, for compliance with San Mateo County Local Coastal Program Policies, revised April 27.*

² Go Native, 2004, *Natural Habitat Restoration Proposal for the Fassler Avenue Property, Pacifica, California APN 022-083020 & 030, prepared for Pacifica Quarry Homes, October 6.*

³ California Department of Fish and Wildlife (CDFW). 2015. *California Natural Diversity Database (CNDDDB), Wildlife and Habitat Data Analysis Branch. Sacramento. Accessed: November 2015.*

⁴ California Native Plant Society. 2015. *Electronic Inventory of Rare and Endangered Vascular Plants of California. California Native Plant Society, Sacramento, California. Available at: <http://www.cnps.org/inventory>. Accessed: November 2015.*

- *Natural Habitat Restoration Proposal* prepared by Go Native in 2004.⁵ This report summarizes the proposed restoration plans for approximately 8.8 acres of the site as native habitat. The restoration plans focus on removal of invasive plant species, reclamation of the Old Fassler Avenue alignment that bisects the site, restoration of appropriate coastal native habitat, and landscape controls on the interface of preservation areas with proposed development.
- Tree report on two Monterey cypress (*Hesperocyparis* [*Cupressus*] *macrocarpa*) trees on the site prepared by Christopher Campbell, Tree Design.⁶ The report describes the two Monterey cypress trees, indicates that they are proposed for removal, and acknowledges that the proposed project is to include substantial tree replacement plantings.
- *Biotic Assessment Report* prepared by TRA Environmental Sciences in July 2014.⁷ This report summarizes biological resources, analyzes impacts from constructing 24 townhome units, and recommends mitigation measures.

ENVIRONMENTAL SETTING

The proposed project site occupies the rolling hillside along the north side of Fassler Avenue. The majority of the proposed project site was disturbed as part of a former quarry operation and through construction of the former alignment of Fassler Avenue, which once bisected the site. The lower, northern slopes of the site appear to be relatively undisturbed, supporting a cover of native scrub vegetation. The following sections provide descriptions of vegetation and wildlife habitat types on the proposed project site, potential for occurrence of special-status species, occurrence of sensitive natural communities, and potential jurisdictional waters.

⁵ Go Native, 2004, *Natural Habitat Restoration Proposal for the Fassler Avenue Property, Pacifica, California APN 022-083020 & 030, prepared for Pacifica Quarry Homes, October 6.*

⁶ Christopher Campbell, *Tree Design, undated, letter report regarding Two (2) Cupressus macrocarpa (Monterey Cypress) at 801 Fassler Avenue, prepared for The Prospects, received by City of Pacifica on February 16, 2006.*

⁷ TRA Environmental Sciences, 2014, *Biotic Assessment Report for Fassler Ave. Property, APN #022-083-020 and 022-083-030, Pacifica, California, For Compliance with San Mateo County Local Coastal Program. July 2014.*



Source: Imagery: Esri - NAIP 6-2014, 4/19/2016

Figure V.C-1 Vegetation Cover

Fessler Avenue Residential Project SEIR, Pacifica, California

Vegetation and Wildlife

Vegetative cover on the site comprises five communities: northern coastal scrub, willow thicket, purple needle grass grassland, non-native annual grassland, and ruderal (weedy) cover occurring along an old asphalt road and portions of the former quarry face. Other than the two Monterey cypress trees described in the tree report, no other trees that meet the definition of a Heritage tree according to the City of Pacifica⁸ occur on the site. The two Monterey cypress trees grow together near the western edge of the site, with one tree having a trunk circumference of 67 inches measured at 24 inches above the ground surface and the other having a circumference of about 56 inches. Figure V.C-1 shows the dominant vegetation cover types on the proposed project site. The following sections summarize vegetation and associated wildlife habitat types on the proposed project site.

Northern Coastal Scrub

Northern coastal scrub forms the dominant cover over most of the site, and is spreading into the remaining grasslands. Coyote brush (*Baccharis pilularis* ssp. *consanguinea*, *B. pilularis* ssp. *pilularis*) is the most abundant species in the coastal scrub, which occurs with poison oak (*Toxicodendron diversifolia*), toyon (*Heteromeles arbutifolia*), sticky monkeyflower (*Mimulus aurantiacus*), honeysuckle (*Lonicera* sp.), California sagebrush (*Artemisia californica*), California blackberry (*Rubus ursinus*), twinberry (*Lonicera involucrata*), and cow parsnip (*Heracleum maximum*), among others. Herbaceous cover tends to be sparse where shrub cover is dense and dominated by grassland species in openings.

Coastal scrub provides important protective cover for wildlife, many of which forage in the surrounding grasslands. The dense cover provides habitat for many bird and mammal species, including California quail (*Callipepla californica*), rufous-crowned sparrow (*Aimophila ruficeps*), Bewick's wren (*Thryomanes bewickii*), wrentit (*Chamaea fasciata*), Anna's hummingbird (*Calypte anna*), brush rabbit (*Sylvilagus bachmani*), deer mouse (*Peromyscus maniculatus*), and dusky-footed woodrat (*Neotoma lepida*). Black-tailed deer (*Odocoileus hemionus*), grey fox (*Urocyon cinereoargenteus*), and raccoon (*Procyon lotor*) also forage and disperse through the scrub habitat.

Willow Thicket

Two native willow thickets occur on the site on either side of the abandoned Fassler Avenue alignment (see Figure V.C-1). These thickets are dominated by dense stands of sitka willow (*Salix sitchensis*), with a sparse groundcover.

Arroyo willow is a species adapted to and often associated with soil saturation (i.e., a hydrophyte); however, it is also a deep-rooted species that is capable of obtaining a significant

⁸ City of Pacifica. 1990. Chapter 12. - Preservation of Heritage Trees, Section 4-12.02 Definitions. Codified from Ordinance No. 333-C.S., amended by Ordinance No. 542-C.S., effective January 10, 1990.

portion of its water from ground water in the phreatic zone, or the saturation zone in the aquifer below the water table (i.e. a phreatophyte). Although some willow thickets may lack the surface hydrology necessary to be considered jurisdictional wetlands, the willow thickets observed on the project site occurred on moist (almost saturated) soils and also generally supported a sparse understory of hydrophytic herbaceous species. Therefore, the willow thickets appear to be a result of seasonal seepage on the cut slopes and former quarry face. The jurisdictional status of the willow thicket on-site is discussed in the *Jurisdictional Waters* section below.

The dense cover associated with the willow provides protective cover for wildlife, including black-tailed deer, dusky-footed woodrat, California quail, and other bird species. No evidence of nesting birds or woodrats was observed during the field reconnaissance; however, the dense vegetation may have obscured existing nests.

Purple Needle Grass Grassland

A small patch of purple needle (*Stipa* [*Nassella*] *pulchra*) grass grassland occurs centrally in the southeastern portion of the Fassler Avenue alignment. The purple needle grass grassland contained greater than 10 percent relative vegetative cover of purple needle grass with associated plant species including onion grass (*Melica imperfecta*), wild oat (*Avena fatua*), and common yarrow (*Achillea millefolium*).

Grasslands support a number of insects, reptiles, birds, and small mammals, which in turn serve as important prey for larger reptiles, birds, and mammals. Some of these species forage in the open grasslands, and retreat to the protective cover of the surrounding scrub for refuge and nesting. Herbivorous small mammals include Botta's pocket gopher (*Thomomys bottae*) and California vole (*Microtus californicus*). Reptiles associated with grassland habitat include: gopher snake (*Pituophis catenifer*), common king snake (*Lampropeltis getula*), western rattlesnake (*Crotalus atrox*), western fence lizard (*Sceloporus occidentalis*), and alligator lizard (*Elgaria sp.*). Bird species include granivores, omnivores, and insectivores, as well as birds-of-prey. Bird species observed or suspected to forage on the site include: western meadowlark (*Sturnella neglecta*), black phoebe (*Sayornis nigricans*), savanna sparrow (*Passerculus sandwichensis*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), white-tailed kite (*Elanus leucurus*), American kestrel (*Falco sparverius*), and great-horned owl (*Bubo virginianus*). Large herbivores and predatory mammals that frequent the grasslands or use the open areas for dispersal and movement across the site include: black-tailed deer, black-tailed jackrabbit (*Lepus californicus*), long-tailed weasel (*Mustela frenata*), grey fox (*Urocyon cinereoargenteus*), striped skunk (*Mephitis mephitis*), and possibly bobcat (*Lynx rufus*), and coyote (*Canis latrans*).

Non-Native Annual Grassland

Plant species composition in this community is dominated by non-native grasses and forbs,⁹

⁹ Forbs include broad-leaved herbs that are not grasses or grass-like; typically found growing in a field, prairie, or meadow.

such as wild oat, soft chess (*Bromus hordeaceus*), bur clover (*Medicago polymorpha*), English plantain (*Plantago lanceolata*), scarlet pimpernel (*Anagallis arvensis*), bull thistle (*Cirsium vulgare*), and dove's foot geranium (*Geranium molle*). A number of highly invasive species are also present on the proposed project site, although the applicant has worked to control and eradicate many of these species. Invasive species include: pampas grass (*Cortaderia selloana*), poison hemlock (*Conium maculatum*), fennel (*Foeniculum vulgare*), French broom (*Genista monspessulana*), periwinkle (*Vinca major*), Cape ivy (*Delairea odorata*), and prickly lettuce (*Lactuca serriola*).

Portions of the grasslands continue to support native species, but not to the degree that they could be characterized as native grassland. Native species include: purple needle grass, coast buckwheat (*Eriogonum latifolium*), common cinquefoil (*Drymocallis glandulosa*), common yarrow, and beach strawberry (*Fragaria chiloensis*).

Non-native annual grasslands support similar wildlife species to those discussed for purple needle grass grasslands.

Ruderal Habitat

Ruderal habitat was observed along the old asphalt road and portions of the former quarry face. Ruderal areas are characterized by compacted soils or fill materials (e.g. gravel, asphalt, and debris piles) and sparse cover of non-native, invasive plants such as pampas grass, fennel, French broom, and Fuller's teasel (*Dipsacus fullonum*).

Ruderal habitat supports similar wildlife species to those discussed for purple needle grass grasslands.

Special-Status Species

Special-status species are plants and animals that are legally protected under the State and/or Federal Endangered Species Acts or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. As discussed below, under Regulatory Setting, species with legal protection under the Federal and State Endangered Species Acts often represent major constraints to development; particularly when they are wide ranging or highly sensitive to habitat disturbance and where proposed development would result in a "take" of these species. "Take" as defined by the Federal Endangered Species Act (ESA) means to "harass, harm, pursue, hunt, shoot, kill, trap, capture, or collect" a threatened or endangered species. "Harm" is further defined by the USFWS to include the killing or harming of wildlife due to significant obstruction of essential behavior patterns (i.e., breeding, feeding, or sheltering) through significant habitat modifications or degradation. The CDFW also considers the loss of listed species habitat as "take", although this policy lacks statutory authority and case law support under the California Endangered Species Act (CESA).

Special-Status Plant Species

The *Biotic Assessment Report* analyzed 29 special-status plant species that have been documented in the vicinity of the project site according to CNDDDB for their potential to occur onsite. The report concluded that the project site lacks suitable habitat for 23 of these species. The remaining six species were considered absent based on lack of observations during appropriately timed surveys. A focused survey for special-status plants was conducted on the site on April 23, 2004 by the applicant's consulting biologists¹⁰, when all special-status plant species would have been most easily detected. No special-status plant species were detected during the focused special-status plant survey or during subsequent reconnaissance-level surveys.

It should be noted that the *Biotic Assessment Report* analysis excluded California Rare Plant Rank 3 and 4 species, which may also qualify as special-status under CEQA. WRA conducted an updated database search for all special-status plant species (including Rank 3 and 4) and identified 72 special-status plant species that have been documented within the general vicinity of the site, including the Montara Mountain 7.5-minute United States Geological Survey (USGS) quadrangle and eight surrounding quadrangles. However, there are no substantive changes in the conclusions as a result of the more inclusive list and any species determined to have potential to occur would have been observable during the complete floristic survey completed on April 23, 2004. The site is relatively small with a history of prior disturbance and supports little suitable habitat for special-status plant species. As such, it is likely that any special-status plants present would have been identified during one or more of the several surveys of the site that have been conducted to date. Therefore, no special-status plants are considered present or likely to be present within the project site.

Special-Status Wildlife Species

The *Biotic Assessment Report* analyzed 12 special-status wildlife species that have been documented in the vicinity of the project site according to CNDDDB for their potential to occur onsite. The report concluded that the project site lacks suitable habitat for 10 of these species. The remaining two species, California red-legged frog (*Rana draytonii*) and San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) are considered to have low and high potential to occur respectively. Information on each of these species is summarized below.

California Red-legged Frog. The California red-legged frog is listed as threatened by the USFWS and is recognized as a California species of special concern (CSC) by the CDFW. It typically occurs in aquatic habitat of streams and ponds, but can disperse through uplands in search of breeding and aestivation sites. Continued loss of upland dispersal habitat, fragmentation of remaining breeding locations, competition and predation by bullfrogs, and

¹⁰ Thomas Reid Associates, 2005, *Revised Biological Assessment Report for Fassler Avenue Property, APN 022-083-020 and 022-083-030, for compliance with San Mateo County Local Coastal Program Policies, revised April 27.*

degradation of aquatic habitat are primary concerns regarding protection and recovery of this species.

The site is outside of the designated critical habitat areas for California red-legged frog. As indicated in the *Biotic Assessment Report*, the site does not contain a water source for California red-legged frog to use as either breeding habitat or non-breeding shelter habitat. Protocol surveys were not conducted, but this species is considered to have low potential to occur on the site due to the absence of suitable aquatic habitat, distance to aquatic habitats, and distance to known occurrences.

San Francisco Dusky-Footed Woodrat. This subspecies has no legal protective status, but has been designated as a Species of Special Concern (SSC) by the CDFW. It occurs in a variety of brushy and wooded habitats, including coastal scrub. This subspecies occurs in the Santa Cruz Mountains and in the East Bay. It builds stick houses for nesting and protection. Numerous nests were observed in the open scrub on the open face of the former quarry. Numerous other nests are likely to occur in the dense coastal scrub along the northern portion of the site.

Native Bird Species. There is a possibility that special-status bird species and native nesting birds protected by the Migratory Bird Treaty Act (MBTA) as well as California Fish and Game Codes could nest within the proposed project site. Special-status species considered to have potential to nest within the site include: northern harrier (*Circus cyaneus*), white-tailed kite, and loggerhead shrike (*Lanius ludovicianus*). If nests are found in the future, the nesting individuals would be protected under the Migratory Bird Treaty Act and possibly other federal and state laws. No nests were observed during the field reconnaissance surveys in preparation of this analysis, and the absence of suitably sized nesting trees precludes most common tree-nesting raptors from nesting on the site.

It should be noted that there remains a potential for occasional use of the proposed project site vicinity by other bird species of concern including: ferruginous hawk (*Buteo regalis*), Aleutian Canada goose (*Branta canadensis leucopareia*), merlin (*Falco columbarius*), and prairie falcon (*Falco mexicanus*), among others. Species usage would be limited to occasional wintering activity by migratory bird species or occasional foraging activity by species for which essential breeding habitat is absent from the site.

Sensitive Natural Communities

In addition to species-oriented management, protecting habitat on an ecosystem-level is increasingly recognized as vital to the protection of natural diversity in the state. This is considered the most effective means of providing long-term protection of ecologically viable habitat, and can include whole watersheds, ecosystems, and sensitive natural communities. Providing functional habitat connectivity between natural areas is essential to sustaining healthy wildlife populations and allowing for the continued dispersal of native plant and wildlife species. Sensitive natural communities are natural community types that are generally rare or especially valuable because of their special nature or role in an ecosystem and which tend to be

vulnerable to disturbance and degradation due to human activities and development. These communities may or may not necessarily support special-status plant and wildlife species. These sensitive natural communities are usually identified in local or regional plans, policies, or regulations, or by state or federal resource agencies (CDFW (i.e., CNDDDB) or the USFWS).

With the possible exception of the willow stands and purple needle grass grassland, the site is dominated by relatively common coastal scrub and non-native annual grassland natural community types, neither of which is considered a sensitive natural community. The non-native annual grasslands did not contain a high enough native species composition to be considered a sensitive natural community type. The willow thicket is associated with seeps on the face of the former quarry, and could be considered riparian wetland habitat. For the purposes of this SEIR, it should be considered a sensitive natural community type. Purple needlegrass grassland is ranked as "S3?" by the CDFW, meaning that it is considered rare, but there is some uncertainty regarding its status. However, the small size of the stand observed on the project site (0.15 acre) and relative isolation from other larger stands substantially reduces the quality and sensitivity of this habitat.

Jurisdictional Waters

Although definitions vary, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or groundwater, and support vegetation adapted life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration and purification functions. The U.S. Army Corps of Engineers (Corps), CDFW, and San Francisco Bay Regional Water Quality Control Board (RWQCB) have jurisdiction over modification to riverbanks, lakes, streams channels, and other wetland features. Jurisdiction of the Corps is established through provisions of Section 404 of the Clean Water Act (CWA), which prohibits the discharge of dredged or fill material without a permit. The RWQCB jurisdiction is established through Section 401 of the CWA, which requires certification or waiver to control discharges in water quality. Jurisdictional authority of the CDFW over streams, lakes, or riparian areas is established under Section 1600 of the State Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream.

A preliminary wetland assessment was conducted on October 8, 2015 as part of the field reconnaissance in preparation of this section. No established creeks or drainages were observed on the accessible portions of the proposed project site where development is proposed.

During the site visit, the areas mapped as willow thickets were determined to likely qualify as jurisdictional wetland habitat. The willow thickets were dominated by hydrophytic vegetation, most notably sitka willow (a facultative wetland species [FACW]), with occasional patches of herbaceous hydrophytic vegetation (e.g., rushes) in the understory. Soils were moist, dominated by fine-textured clays, and dark in color, with a "10YR 2/1" hue, chroma, and value,

as determined utilizing a standard Munsell soil color chart.¹¹ Although the soils were not quite saturated at the time of the site visit, which occurred at the end of the dry season following three consecutive drought years, it is highly likely that the soils would be saturated for at least two weeks during the wet season during a normal rainfall year. As such, it is believed that the Corps hydrology criterion would be met.

The extent of these willow thickets is indicated in Figure V.C-1.

REGULATORY SETTING

Federal Regulations

Federal Endangered Species Act

The USFWS in the Department of the Interior, and the National Oceanic and Atmospheric Administration (NOAA) in the Department of Commerce share responsibility for administration of the ESA. The ESA provides broad protection for species of fish, wildlife, and plants that are listed as threatened or endangered in the United States or elsewhere. The ESA has four major components: provisions are made for listing species, requirements for consultation with USFWS, prohibitions against “taking” of listed species, and the provisions for permits that allow incidental “take”. The ESA also discusses recovery plans and the designation of critical habitat for listed species.

The Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-711) makes it unlawful to possess, buy, sell, purchase, barter or “take” any migratory bird listed in Title 50 of the Code of Federal Regulations Part 10. “Take” is defined as possession or destruction of migratory birds, their nests, or eggs. Disturbances that causes nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend would be in violation of the Migratory Bird Treaty Act.

Clean Water Act – Section 404

Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water, and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration, and purification functions. Technical standards for delineating wetlands have been developed by the Corps and the USFWS, which

¹¹ *Munsell Color. 2012. Munsell Soil Color Charts. Munsell Color, Grand Rapids, MI.*

generally define wetlands through consideration of three criteria: hydrology, soils, and vegetation.

Under Section 404 of the CWA, the Corps is responsible for regulating the discharge of fill material into waters of the United States. The term "waters" includes wetlands and non-wetland bodies of water that meet specific criteria as defined in the Code of Federal Regulations. All three of the identified technical criteria must be met for an area to be identified as a wetland under Corps jurisdiction, unless the area has been modified by human activity. In general, a permit must be obtained before fill can be placed in wetlands or other waters of the United States. The type of permit depends on the amount of acreage and the purpose of the proposed fill, subject to discretion of the Corps.

The RWQCB is responsible for implementing Section 401 of the CWA and for upholding state water quality standards. Pursuant to Section 401 of the CWA, projects that apply for a Corps permit for discharge of dredge or fill material, and projects that qualify for a Nationwide Permit must obtain water quality certification. The RWQCB has taken an increasing role over regulating wetlands that are hydrologically isolated following the U.S. Supreme Court decision in 2001 regarding the case *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC), which limits the jurisdictional authority of the Corps under Section 404. These hydrologically isolated features are now regulated by the RWQCB under authority of Section 401 of the CWA and the Porter-Cologne Water Quality Control Act.

State Regulations

California Endangered Species Act

The CESA is similar to the main provisions of the federal ESA and is administered by the CDFW. Unlike its federal counterpart, CESA applies the take prohibitions to species petition for listing (state candidates). Section 86 of the Fish and Game Code defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

The CDFW maintains lists for Candidate-Endangered Species and Candidate-Threatened Species, which have the same protection as listed species. Under CESA the term "endangered species" is defined as a species of plant, fish, or wildlife that is "in serious danger of becoming extinct throughout all, or a significant portion of its range" and is limited to species or subspecies native to California. CESA prohibits the "taking" of listed species except as otherwise provided in State law.

California Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 gave the CDFW the power to designate native plants as "endangered" or "rare" and protects endangered and rare plants from take.

The Natural Community Conservation Planning Act

The Natural Community Conservation Planning Act (NCCP Act) was added to CESA in 1991 which authorizes voluntary cooperation among CDFW, landowners, and other interested parties

to develop natural community conservation plans that provide for early coordination of efforts to protect listed species or species that are not yet listed. The primary purpose of the NCCP Act is to preserve species and their habitats, while allowing reasonable and appropriate development to occur on affected lands.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act establishes that the State Water Resources Control Board and each RWQCB are the principal State agencies responsible for coordinating, protecting, enhancing, and controlling water quality in California. The project is under the San Francisco RWQCB jurisdiction. The San Francisco (Region 2) RWQCB office guides and regulates water quality in streams and aquifers of the San Francisco Bay Area through designation of beneficial uses, establishment of water quality objectives, administration of the National Pollutant Discharge Elimination System (NPDES) permit program for storm water and construction site runoff, and Section 401 water quality certification where development results in fill of jurisdictional wetlands or waters of the US under Section 404 of the CWA. Additionally, the office regulates water quality in the Bay Area in accordance with the Water Quality Control Plan or 'Basin Plan'.¹² The Basin Plan presents the beneficial uses, which the RWQCB has specifically designated for local aquifers, streams, marshes, rivers, and the Bay, as well as the water quality objectives, and criteria that must be met to protect these uses.

Section 1602 Lake and Streambed Alteration Agreement

Jurisdictional authority of the CDFW is established under Section 1600 of the Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake without notifying the CDFW, incorporating necessary mitigation, and obtaining a Streambed or Lake Alteration Agreement. The Wetlands Resources Policy of the Fish and Game Code states that the CDFW will strongly discourage development in or conversion of wetlands unless, at a minimum, project mitigation assures there will be no net loss of either wetland habitat values or acreage. The CDFW is also responsible for commenting on projects requiring Corps permits under the Fish and Wildlife Coordination Act of 1958.

Local Regulations

City of Pacifica General Plan

The Open Space and Conservation Elements of the *City of Pacifica General Plan* include goals and policies related to the protection of sensitive biological and wetland resources. Most of these relate to preservation of creeks, trees, and native vegetation, as well as essential habitat for special-status species, and important wildlife habitat. Relevant policies are listed below.

¹² *Regional Water Quality Control Board, San Francisco Bay (Region 2), 1995, Water Quality Control Plan (Basin Plan), June 1995.*

Open Space Element

Policy 1: Retain open space, which preserves natural resources, protects visual amenities, prevents inappropriate development, provides for the managed use of resources, and protects the public health and safety.

Policy 3: Encourage development plans which protect or provide generous open space appropriately landscaped. Balance open space, development, and public safety, particularly in the hillside areas.

Policy 6: Where open space is a condition of development, the City should require that it be clearly designated as permanent open space.

Conservation Element

Policy 1: Conserve trees and encourage native forestation.

Policy 2: Require the protection and conservation of indigenous rare and endangered species.

Policy 3: Protect significant trees of neighborhood or area importance and encourage planting of appropriate trees and vegetation.

Policy 5: Local year-round creeks and their riparian habitat shall be protected.

Policy 7: Promote the conservation of all water, soil, wildlife, vegetation, energy, minerals, and other natural resources.

City of Pacifica Heritage Tree Ordinance

The Municipal Code Sec. 4-12.04 for the City of Pacifica requires approval to remove or destroy trees above a certain size. Specifically, the City's municipal code states: No person shall cut down, destroy, remove, or move a heritage tree, or engage in new construction within the dripline of a heritage tree growing on private property or City-owned property, without a permit. "Heritage tree" is defined to include: (1) All trees within the City of Pacifica, exclusive of eucalyptus, which have a trunk with a circumference of fifty (50") inches (approximately sixteen (16") inches in diameter) or more, measured at twenty-four (24") inches above the natural grade; or (2) A tree or grove of trees, including eucalyptus, designated by resolution of the Council to be of special historical, environmental, or aesthetic value.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Based on Appendix G of the *CEQA Guidelines*, the proposed project would have a significant environmental impact related to biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS;
- Have a 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 the USFWS;
- Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

In addition to these thresholds of significance, those requirements outlined in the Regulatory Setting discussion, as well as, the existing site conditions provided in the Environmental Setting will be utilized for the project impact analysis in order to establish whether a project impact would be significant.

Biological Resources Issues Not Analyzed Further

As discussed in the Initial Study (Appendix A), the proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The proposed project site is not subject to a Habitat Conservation Plan, Natural Community Conservation Plan, or any other habitat plan. Therefore, development of the proposed project would not conflict with any habitat conservation plan and thus, no further analysis of the issue is required.

Proposed Project

The proposed project would involve development of approximately 1.23 acres of the 11.2-acre site, primarily in the western portion of the property, which has been extensively disturbed by

past quarry operations and construction of the abandoned Fassler Avenue alignment. Impacts to vegetation and wildlife would occur as a result of clearing, grading, and filling during site preparation, although impacts to wildlife would also occur through habitat fragmentation and increased human activity on the site. Existing vegetative cover within the grading footprint, primarily of coastal scrub, willow thicket, and ruderal habitat would be removed as part of initial grubbing and grading. The proposed project also includes removal of the existing pavement from the abandoned Fassler Avenue alignment outside the proposed limits of development to restore the area as natural habitat. The Natural Habitat Restoration Proposal prepared for the applicant summarizes the proposed restoration plans for approximately 8.8 acres of the site as native habitat. The restoration plans focus on removal of invasive plant species, reclamation of the old Fassler Avenue alignment that bisects the site, restoration of appropriate coastal native habitat, and landscape controls on the interface of preservation areas with proposed development.

Project Impacts and Mitigation Measures

Impact BIO-1: The proposed project could have a substantial adverse effect on species identified as a candidate, sensitive, or special-status species

Special-Status Plant Species

Implementation of the proposed project would not directly affect any known occurrences of special-status plant species on the site. Based on the results of the survey conducted by the applicant's consulting biologist and extent of past disturbance on the site, no special-status plant species are believed to occur on the site, and no adverse impacts are anticipated. However, because protocol-level special-status plant surveys are over ten years old, the presence of special-status plant species colonization cannot be completely ruled out. Therefore, the proposed project has potential to significantly impact special-status plant species. Implementation of Mitigation Measure BIO-1a would ensure impacts to special-status plant species are mitigated to a level of ***less than significant***.

Mitigation Measure BIO-1a: Special-Status Species Pre-construction Surveys

The Applicant shall be responsible for obtaining a qualified biologist to conduct rare plant surveys. Rare plant surveys shall be conducted during the appropriate blooming periods for plant species with a moderate potential to occur prior to the onset of construction activities. If it is determined that construction-related activities will impact any special-status plant species, the Applicant, in coordination with a qualified biologist, shall prepare a mitigation plan for protecting species. The mitigation plan shall be submitted to the City for approval prior to implementation. Mitigation measures shall be implemented by the Applicant's biologist and may include additional avoidance measures, salvaging and transplanting of plants, and collection and storage of seeds for future re-establishment efforts. For annual species, seeds shall be collected and preserved from areas of disturbance prior to the disturbance and used for reseeding

efforts in late-fall to suitable areas onsite that are not subject to human disturbance. If any special-status plant species are detected, their extent and population size shall be mapped and reported to the City of Pacifica and all other appropriate agencies.

Special-Status Wildlife Species

Impacts to special-status wildlife species as a result of this project would be considered potentially significant due to direct or indirect impacts on a number of species as discussed in the *Biotic Assessment Report*. However, with implementation of mitigation measures outlined below, impacts on special-status wildlife species would be reduced to a less-than-significant level. Species that may be impacted by the project activities discussed below include: California red-legged frog and San Francisco dusky-footed woodrat. In addition, several species of birds could be adversely affected if nests are established on the site before construction begins.

Habitat for California red-legged frog is not present on the site, and the likelihood that individuals would be present is minimal because of the distance from aquatic habitats. The project site is greater than 400 feet from non-breeding aquatic habitat, and California red-legged frog is unlikely to be present more than 300 feet from aquatic habitats during the dry season¹³. The California red-legged frog requires refugia which provide moisture and predator protection to survive the dry season and is typically not found at distance from aquatic habitats. However, there remains a possibility that individuals may disperse into the construction area during the wet season and be inadvertently taken. This would be considered a significant impact. Implementation of Mitigation Measure BIO-1b described below would address the potential for impacts to California red-legged frogs, reducing impacts to ***less than significant***.

Proposed grading and development would result in the loss of an unknown number of San Francisco dusky-footed woodrat nests. Although this subspecies is not protected under the State or federal Endangered Species Acts, it is considered a SSC by CDFW. The loss of active nests or individuals during construction within the project site would be considered a significant impact. Implementation of Mitigation Measure BIO-1c described below would reduce the potential for impacts to San Francisco dusky-footed woodrat to a ***less than significant*** level.

While no nests of raptors or loggerhead shrike were observed on the proposed project site, there is a potential for nests to be established prior to project implementation. If nests are established prior to construction, vegetation clearing or disturbance in the immediate vicinity of an active nest could result in abandonment of the nest or loss of eggs and young if such activities are initiated during the nesting season. This would be a violation of the Migratory Bird Treaty Act and California Fish and Game Code and is therefore considered a significant impact. Implementation of Mitigation Measure BIO-1d would address the potential for impacts to nesting birds and reduce impacts to a less than significant level.

¹³ U.S. Fish and Wildlife Service. 2010. *Endangered and Threatened Wildlife and Plants: Revised Designation of Critical Habitat for California Red-legged Frog; Final Rule. Federal Register, Vol. 75, No. 51. 12815-12959.*

Implementation of Mitigation Measures BIO-1b through 1d would ensure impacts to special-status wildlife species are mitigated to a level of ***less than significant***.

Mitigation Measure BIO-1b: California Red-legged Frog Avoidance

For the protection of California red-legged frogs; initial ground disturbing activities shall be performed during the dry season, from May 15 to October 15, in order to avoid the wet season when California red-legged frog movement generally occurs. A qualified biologist shall perform a preconstruction survey of the project site for California red-legged frogs within 48 hours prior to the start of ground disturbance activities such as vegetation removal or grading. A “qualified biologist” has experience with the identification of the species and has been previously approved by USFWS or CDFW to conduct surveys and monitoring for California red-legged frog. The survey shall take place on the first morning prior to the start of ground disturbance including vegetation removal. Results of the survey shall be provided to the City of Pacifica. If any California red-legged frogs are found, construction within 100 feet shall be halted or as determined by the qualified biologist to prevent harm to the individual(s) until the species disperses naturally out of the work area. The biologist shall also immediately notify the USFWS Coast Bay Service Division of the Sacramento Field Office. Subsequent recommendations made by the USFWS shall be followed. The biologist shall not handle or otherwise harass the animal and shall watch the animal until it is safely outside of the work area and area of potential harm.

Prior to initiation of project activities, all workers involved with ground disturbance or habitat enhancement activities shall receive environmental awareness training concerning California red-legged frog, and any other sensitive biological resources on the site. The training shall be given by a qualified biologist and shall cover the species biology, identification, any areas that are to be avoided, legal status, definition of take, potential punishment for take of California red-legged frog, and steps to follow if California red-legged frog are observed within the work area. If California red-legged frog are observed on-site and a biologist is not present, work must stop immediately, the foreman is to be notified, and a qualified biologist shall be called to survey the work area and contact the USFWS as described above. A training log shall be kept on-site of all crew members who receive the environmental awareness training. The initial training log will be submitted to the City of Pacifica for their records. Additional training logs will be submitted upon request by the City.

During construction, all steep-walled holes and trenches greater than six inches in depth on the construction site shall be covered or have escape ramps placed within them at the end of the work day to prevent any amphibians or reptiles from becoming trapped overnight.

Erosion control materials such as wattles shall not contain plastic netting and shall be restricted to mats, blankets, or fiber-wrapped wattles. Plastic netting including biodegradable plastic can entrap amphibian and reptile species.

If ground disturbance activities are to continue through the wet season, wildlife exclusion fencing shall be installed surrounding the construction site per USFWS standards. Wildlife exclusion fencing can consist of silt erosion control fencing that is buried 4 to 6 inches below ground, extends a minimum of 36 inches above ground, and has fence stakes installed on the work side of the silt material. The wildlife exclusion fence shall be maintained through the wet season and any needed repairs are to be made within 48 hours.

Mitigation Measure BIO-1c: San Francisco Dusky-footed Woodrat Avoidance

For the protection of San Francisco dusky-footed woodrats: within 30 days prior to initial vegetation removal and/or ground disturbance within the project site, a pre-construction survey for woodrat structures/houses shall be conducted by a qualified biologist. All woodrat houses within 25 feet of the work area shall be demarcated with flagging or protective fencing and avoided to the fullest extent feasible. If avoidance by at least five feet is not possible, then houses to be impacted shall be dismantled by hand under the supervision of a qualified biologist. Dismantling is a slow procedure which requires removal of sticks and cover by hand until a chamber is reached and can be visually inspected for presence of woodrat. If woodrat young are encountered during the dismantling process, the material shall be placed back on the house, and a work exclusion buffer of at least 20 feet placed around the structure. The structure shall remain unmolested for at least two weeks in order to allow the young to mature and leave the nest of their own accord. After the avoidance period, the nest dismantling process may begin again. Nest material shall then be moved to suitable adjacent vegetated areas that will not be disturbed.

Mitigation Measure BIO-1d: Nesting Bird Avoidance

For the protection of special status bird species and bird species protected by the Migratory Bird Treaty Act as well as Fish and Game Codes, project activities shall occur during the non-nesting season (August 16 – January 31) to the extent feasible. However, if vegetation removal, grading, or initial ground-disturbing activities must occur during the nesting season (February 1 through August 15), a survey for active bird nests shall be conducted by a qualified biologist within 14 days prior to the start of these activities. The survey shall be conducted in a sufficient area around the work site to identify the location and status of any nests that could potentially be affected by project activities. Survey results shall be documented in a letter and provided to the City of Pacifica.

If active nests of protected species are found within project impact areas or in close proximity to affect breeding success, a work exclusion zone shall be established

around each nest. Established exclusion zones shall remain in place until all young in the nest have fledged or the nest otherwise becomes inactive (e.g., due to predation). Appropriate exclusion zone sizes vary dependent upon bird species, nest location, existing visual buffers and baseline ambient sound levels, and other factors; an exclusion zone radius may be as small as 50 feet (for common, disturbance-adapted species) or as large as 250 feet or more for raptors. If the project cannot maintain the exclusion zone, a reduction in the size of the exclusion zone may be requested in coordination with the biologist and sent to the City of Pacifica for approval. Reduction of the exclusion zone size shall be supported with nest monitoring by a qualified biologist to verify that work activities outside the reduced radius are not adversely impacting the nest.

Impact BIO-2: The proposed project could have a substantial adverse effect on a sensitive natural community

Proposed grading and development would result in direct significant impacts to the stands of willow thicket on the site, which is considered a sensitive natural community. Impacts on willow thicket stand and associated mitigation measures are addressed under Impact BIO-3. The remaining natural communities that will be affected include coastal scrub and ruderal habitat, both of which are not considered sensitive under CEQA. Therefore, impacts would be **less than significant** to coastal scrub and ruderal habitat.

Impact BIO-3: The proposed project could have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act

Potential impacts on jurisdictional waters would include possible direct modifications to the stands of willow thicket. Based on the October 8, 2015 wetland assessment, the areas mapped as willow thickets on the site have been determined to be likely jurisdictional wetland habitat, which would be regulated by both the Corps and RWQCB. A wetland delineation, verified by the Corps, would be required to confirm the extent of jurisdiction prior to project commencement. As previously mentioned, grading necessary to accommodate the residential development would extend over portions of the willow thickets and would directly impact these likely jurisdictional wetlands. This is considered a significant impact. Mitigation Measure BIO-2 requires a Wetland Mitigation Program be prepared that requires replacement of wetlands. Implementation of these mitigation measures would ensure that impacts to federally protected wetlands would remain **less than significant**.

Mitigation Measure BIO-2: Authorization for Loss of Jurisdictional Waters

A Wetland Mitigation Program shall be prepared by a qualified wetland specialist to provide for the protection, replacement, and management of any jurisdictional waters on the site affected by proposed development and submitted to the City for approval prior to issuance of building permits. The Mitigation Program shall include the following components and meet the following standards:

- Before project implementation, a delineation of waters of the United States and waters of the State, including wetlands that could be affected by development, shall be made by a qualified wetland specialist through the formal CWA Section 404 process.
- Provide adequate mitigation for any direct or indirect impacts to jurisdictional waters as coordinated with the Corps, RWQCB, and the City of Pacifica, where complete avoidance is infeasible. Replacement wetlands shall be replaced at a minimum 2:1 replacement ratio and shall be established in suitable locations within proposed open space areas, as negotiated with and ultimately determined by the agencies. The wetlands replacement component of the Mitigation Program shall emphasize establishment of native riparian and uplands species to enhance existing habitat values. The Mitigation Program shall be submitted for review and approval by the City of Pacifica prior to issuance of building or grading permits.
- The wetland replacement component of the Mitigation Program shall specify performance criteria, maintenance, and long-term management responsibilities, monitoring requirements, and contingency measures. Monitoring shall be conducted by the qualified wetland specialist for a minimum of five years and continue until the success criteria are met.
- In addition, the applicant shall obtain all necessary permits from the Corps, USFWS, and the RWQCB as required by federal and State laws to avoid, minimize, or offset impacts to any species listed under either the State or Federal Endangered Species Acts or protected under any other State or federal law as follows:
 - If based on the verified delineation, it is determined that fill of waters of the United States would result from project implementation, authorization for such fill shall be secured from the Corps through the Section 404 permitting process and from the RWQCB as part of the Section 401 water quality certification process.
 - Consultation or incidental take permitting may be required under the ESA. The applicant shall obtain all legally-required permits from the USFWS for the “take” of protected species under the ESA.
 - Evidence that the applicant has secured any required authorization from these agencies shall be submitted to the City of Pacifica Planning Department prior to issuance of any grading or building permits for the project.

Impact BIO-4: Implementation of the proposed project could interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site

The proposed project would alter existing habitat on approximately 1.23 acres of the 11.2-acre site, replacing portions of coastal scrub and ruderal habitat with residential development and landscape improvements. However, these modifications are generally not expected to affect any native wildlife nursery areas, or substantially interfere with the movement of native resident or migratory wildlife, or obstruct migratory wildlife corridors. Wildlife in the area are already acclimated to human activity along the Fassler Avenue roadway, and a substantial portion of the site would remain as undeveloped open space and would continue to be available for wildlife use and movement. Implementation of the proposed Natural Habitat Restoration program would improve the extent of natural habitat on the site, through the removal of invasive exotics and restoration of native cover along the former Fassler Avenue alignment.

There is a possibility that proposed grading and the activities of future residents and visitors could further degrade the value of the remaining natural communities on the site for wildlife. Species such as French broom, Scotch broom (*Cytisus scoparius*), and pampas grass are currently not a severe problem on the site due in part to removal and control by the applicant. However, grading would create exposed slopes that provide preferred habitat for these species and development of the site could contribute to their spread if not carefully controlled. Dogs and cats owned by future residents of the project could harass or kill wildlife if not controlled, and night-time lighting could disrupt wildlife use of natural areas unless carefully designed. There is also a possibility that future residents could plant a number of highly invasive non-native plant species as landscaping. Many species used in landscaping are highly invasive, and could spread into open space areas to be preserved, further reducing the native habitat values of the site. The California Invasive Plant Council (Cal-IPC) has identified certain plant species typically used in landscaping considered to be unsuitable due to their invasive character and tendency to out-compete native flora.¹⁴ As a result, impacts are considered potentially significant on the existing wildlife habitat values of the site. Implementation of Mitigation Measures BIO-3a and BIO-3b would ensure through use of landscape architects and additional wildlife avoidance measures that impacts related to native resident or wildlife species would be reduced to a level of **less than significant**.

Mitigation Measure BIO-3a: Wildlife Habitat Protection and Enhancement

A qualified, California-registered landscape architect or restoration ecologist who specializes in native habitat restoration shall be retained by the applicant to incorporate the following provisions into the Landscape Plans for the project:

- Prohibit the use of highly undesirable species in landscape improvements on the site which could spread into the adjacent open space areas. Unsuitable species include: acacia (*Acacia* spp.), giant reed (*Arundo donax*), iceplant (*Carpobrotus edulis*), pampas grass (*Cortaderia* spp.), cotoneaster

¹⁴ California Invasive Plant Council (Cal-IPC). 2015. California Invasive Plant Inventory. California Invasive Plant Council, Berkeley, CA. Available online: <http://www.cal-ipc.org/ip/inventory/index.php>. Accessed: November 2015.

(*Cotoneaster pannosus*), broom (*Cytisus* spp. and *Genista* spp.), Cape ivy, blue gum eucalyptus (*Eucalyptus globulus*), fennel, English ivy (*Hedera helix*), bamboo (*Phyllostachys* spp.), Himalayan blackberry (*Rubus armeniacus*), gorse (*Ulex europaeus*), and periwinkle, among others identified in the Cal-IPC Inventory. This restriction on use of highly undesirable species in landscaping shall be included as a requirement in the CC&Rs for the project.

- Implement the *Natural Habitat Restoration Proposal*, including the eradication program to effectively eliminate highly aggressive non-native species such as French broom, Scotch broom, pampas grass, fennel, Fuller's teasel, and poison hemlock from the site, and replace them with appropriate native shrub and groundcover species.
- Define maintenance and monitoring provisions to ensure the successful establishment and long-term viability of native plantings and the control and eradication of highly aggressive non-native French broom, Scotch broom, pampas grass, Himalayan blackberry, periwinkle, and other noxious weeds from the site. The maintenance and monitoring program shall be implemented during a minimum five year monitoring as part of *Natural Habitat Restoration Proposal*, and shall continue as part of long-term maintenance of open space areas.
- Provide for the immediate reseeding of all graded slopes not proposed for roadways, residences, and ornamental landscape plantings with a mix of native grasses and forbs appropriate for the site rather than a conventional seed mix typically used for erosion control purposes to replace and improve existing habitat values of grasslands disturbed on the site.
- The revised landscape plans shall be submitted to the City for review and approval.

Mitigation Measure BIO-3b: Wildlife Habitat Avoidance

The following additional provisions shall be implemented to further protect wildlife habitat resources, and shall be included in CC&Rs for the development:

- Prohibition on use of invasive plant species for landscaping.
- Permanent fencing that obstructs wildlife movement shall be restricted to the vicinity of building envelopes, and shall not be allowed elsewhere on the site. Wildlife exclusionary fencing is designed to exclude wildlife and contains one or more of the following conditions: lowest horizontal is within 1.5 feet of ground, or highest horizontal is over 6 feet, or top or bottom wire is barbed, or distance between top wires is less than 10 inches, or it combines with existing structures or fences, even on neighboring parcels, to create an obstacle to wildlife movement.

- Lighting shall be carefully designed and controlled to prevent unnecessary illumination of natural habitat on the site. Lighting shall be restricted to the vicinity of building envelopes and the minimum level necessary to illuminate roadways and other outdoor areas. Lighting shall generally be kept low to the ground, directed downward, and shielded to prevent illumination into adjacent natural areas.
- Dogs and cats shall be confined to individual residences and the fenced portion of the building envelopes to minimize harassment and loss of wildlife, except dogs on leash and cats with bells on collars.
- All garbage, recycling, and composting shall be kept in closed containers and latched or locked to prevent wildlife from using the waste as a food source.

Impact BIO-5: Conflict with local policies or ordinances related to biological resources.

The proposed project would conform with local policies and ordinances related to protection of biological and wetland resources. Most of the relevant policies from the City of Pacifica General Plan are general in nature, calling for retention of open space, preservation of creeks, and protection of trees and other resources. As currently proposed and described in the tree report prepared for the applicant,¹⁵ the project would require removal of two Monterey cypress trees on the site. Both of these trees meet the definition of “Heritage tree” under the City’s Municipal Code Sec. 4-12.02(c), which would require approval for their removal. However, these trees are not native to the site, and do not support active nests or other important wildlife habitat values. In complying with all provisions in the City’s Municipal Code (Sec. 4-12.04) for preservation of Heritage Trees, the applicant shall submit the required Tree Protection Plan (Sec. 4- 12.07) to the City of Pacifica, which would ensure that impacts related to conflicts with local policies would be ***less than significant***.

CUMULATIVE IMPACTS

The overall cumulative effect of development is dependent on the degree to which significant biological resources are protected or mitigated as part of individual developments. This includes preservation of areas of sensitive natural communities, protection of essential habitat for special-status plant and wildlife species, and avoidance of wetlands. Further environmental review of any specific development proposals in the vicinity of the site should generally serve to ensure that important biological resources are identified, protected and properly managed, and should serve to prevent any significant adverse development-related impacts. However, if significant unavoidable adverse impacts from individual development cannot be fully mitigated, significant cumulative impacts may occur to biological resources.

¹⁵ Christopher Campbell, *Tree Design*, *ibid*.

The geographic scope for cumulative impacts related to biological resources would include projects within Pacifica and beyond (Table III-1). Table III-2 (Cumulative Projects) lists 20 cumulative projects proposed throughout the City that include but are not limited to residential uses, commercial, recreational, and transportation. While several of these cumulative projects are infill developments that would not likely result in significant biological resources impacts, other cumulative projects including but not necessarily limited to Caltrans' Calera Parkway, Norcal Surf Shop, Harmony @ 1, and 570 Crespi Drive have the potential to result in biological resources impacts based on the thresholds of significance addressed below.

Cumulative Significance Criteria

For purposes of this SEIR, the proposed project would have a significant cumulative effect if:

- the cumulative effects of related projects (past, current, and probable future projects) are not significant and the incremental impact of implementing the proposed project is substantial enough, when added to the cumulative effects of related projects, to result in a new cumulatively significant impact; or
- the cumulative effects of related projects (past, current, and probable future projects) are already significant and implementation of the proposed project makes a considerable contribution to the effect.

The standards used herein to determine considerability are that either the impact must be substantial or must exceed an established threshold of significance.

Cumulative Analysis

Threshold: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS

A significant impact may occur if the project and cumulative projects would result in substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS. For the purposes of this analysis, a substantial adverse effect would be created if the proposed project and cumulative projects significantly reduce the habitat of a fish or wildlife species or cause a fish or wildlife population to drop below self-sustaining levels. No protocol-level special-status plant surveys were prepared for the cumulative projects as a part of this SEIR. Based on the results of the survey conducted by the applicant's consulting biologist and extent of past disturbance on the project site, no special-status plant species are believed to occur on-site. However, because protocol-level special-status plant surveys for the project site are over ten years old, the presence of special-status plant species colonization cannot be completely ruled out. The presence of special-status plant species colonization cannot be completely ruled out at some of the undeveloped cumulative projects as well. Therefore, cumulative impacts to special-status plant species from the project and

cumulative projects are considered to be potentially significant. The project's contribution to this potentially significant cumulative impact is considered to be cumulatively considerable as the above-cited threshold of significance could be triggered, the presence of special-status plant species cannot be completely ruled out at the project site, and the site represents one of the few remaining undeveloped areas of the City that is not zoned as open space.

No protocol-level special-status wildlife surveys were prepared for the cumulative projects as a part of this SEIR. Special-status wildlife species that may be impacted by the proposed project include California red-legged frog and San Francisco dusky-footed woodrat. Implementation of the cumulative projects and proposed project would result in potentially significant cumulative impacts to special-status wildlife species, including the California red-legged frog from the Calera Parkway project and the proposed project as the above-cited threshold of significance could be exceeded.¹⁶ The project's contribution to this potentially significant cumulative impact is considered to be cumulatively considerable as the above-cited threshold could be triggered as there remains the possibility that red-legged frogs may disperse into the construction area during the wet season and be inadvertently taken which would.

Threshold: Have a 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 the USFWS

A significant impact may occur if the project and cumulative projects would result in a 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 the USFWS. For the purposes of this analysis, a substantial adverse effect would be created if the proposed project and cumulative projects threaten to eliminate a plant or animal community. Implementation of the cumulative projects may result in potentially significant cumulative impacts to riparian habitat or other sensitive natural community, including the proposed development at 505 San Pedro Avenue where riparian vegetation (arroyo willow) exists within a portion of a drainage.¹⁷ However, as described above in Impact BIO-2, the proposed project would not impact riparian habitat or other sensitive natural community; therefore, the project's contribution to these significant cumulative impacts would not be cumulatively considerable based on the thresholds of significance cited above.

Threshold: Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means

A significant impact may occur if the project and cumulative projects would have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the CWA. Implementation of cumulative development in the City of Pacifica, including but not necessarily

¹⁶ Caltrans. *Draft Environmental Impact Report/Environmental Assessment – State Route 1/Calera Parkway/Highway 1 Widening Project*. August 2011.

¹⁷ Coast Ridge Ecology. *Biological Resources Assessment for APN 023-72-010*. March 2015.

limited to the proposed Pacifica Quarry Reclamation Project, in conjunction with the proposed project, would result in potentially significant impacts to federally-protected wetlands as defined by Section 404 of the CWA.¹⁸ As described above in Impact BIO-3, the proposed project would also result in potentially significant impacts to jurisdictional wetlands. The project's contribution to the potentially significant impacts is considered to be cumulatively considerable based on the thresholds of significance cited above.

Threshold: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site

A significant impact may occur if the project and the cumulative projects would result in the substantial interference of the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site. Implementation of the some of the cumulative projects listed in Table III-2, such as the Harmony @ 1 project, in conjunction with the proposed project, would result in potentially significant impacts related to wildlife movement as they would trigger the threshold of significance cited above. The project's contribution to these significant cumulative impacts is considered to be cumulatively considerable given it would result in potentially significant wildlife movement impacts as well, as described above in Impact BIO-4, which meet the above-cited thresholds of significance.

Threshold: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

A significant impact may occur if the project and the cumulative projects would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Cumulative impacts related to the potential conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, are anticipated to be less than significant. Like the proposed project, each cumulative project would be required to conform with applicable policies and ordinances, such as the City's Municipal Code (Sec. 4-12.04) for preservation of Heritage Trees. Impact BIO-5 above concluded that the project would result in less-than-significant impacts related to the potential conflict with any local policies or ordinances protecting biological resources. Therefore, the project's contribution to any adverse cumulative impacts would not be cumulatively considerable based on the thresholds of significance cited above.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Potential impacts on special-status species, sensitive natural communities, wetlands, and wildlife habitat and movement opportunities would be ***less than significant*** with implementation of the above mitigation.

¹⁸ Zentner and Zentner. *Pacifica Quarry Reclamation Project Army Corps of Engineers and California Coastal Commission Jurisdictional Delineation*. January 2016.

V. ENVIRONMENTAL IMPACT ANALYSIS

D. GEOLOGY AND SOILS

INTRODUCTION

This Draft SEIR chapter describes the environmental setting for the proposed project, including the project site's geologic environment based on published and unpublished geologic reports and maps from the United States Geological Survey (USGS), California Geological Survey (CGS), Working Group on California Earthquake Probabilities (WGCEP), and Association of Bay Area Governments (ABAG) and a site reconnaissance conducted on October 12, 2015. The environmental setting also describes the project regulatory framework. Following the setting, impacts that could result from implementation of the proposed project are evaluated, and mitigation measures to reduce impacts to a less-than-significant level are recommended, where appropriate.

In addition, the information and analysis in this section refers to the following site-specific geotechnical investigation report (Geotech Report), and an update to the Geotech Report (Geotech Report Update) which are included in Appendix E of this Draft SEIR:

- Bay Area Geotechnical Group (BAGG), Geotechnical Engineering Investigation, Proposed Residential Development, Fassler Avenue, Pacifica, California, 21 April 2005.
- BAGG, Update to Geotechnical Engineering Investigation, Proposed Residential Development, 805 Fassler Avenue, Pacifica, California, 3 February 2016.

The proposed project would be developed generally within the same building footprint as a previously proposed project (Prospects Residential Project) however some of the design and construction details differ from the prior project. The revised grading plan includes a fill deficit, such that approximately 10,100 cubic yards of fill will need to be imported to the site.

ENVIRONMENTAL SETTING

Geology

The project site is located within the Coast Ranges Geomorphic Province, which is characterized by northwest-trending faults, mountain ranges, and valleys.¹ The project site is within a system of steep-sided ridges that form the northern terminus of the Santa Cruz Mountains. The project site, which is located on a broad ridge that extends downward in a northwesterly direction toward the coast, is underlain by bedrock of the Franciscan Complex consisting of a deeply weathered mix of sandstone, siltstone, shale, and greenstone. Some

¹ California Geological Survey (CGS), 2002. *California Geomorphic Provinces, Note 36.*

local landslide deposits appear within the colluvium-filled ravines below the project site. Surrounding hillsides are dissected by erosion and reveal well-developed drainages and subtle linear swales that extend downward. Landslides and debris flows are a recognized hazard in the Pacifica area, considering nearly 500 landslides occurred after an extreme rainstorm in January of 1982.²

Topography

The northwest-trending ridge that extends through the project site ranges from approximately 440 feet above mean sea level (msl) in the southeast portion of the project site to a low point in the northwest portion of about 240 feet above msl. To the southeast of the project site, Fassler Avenue is bounded by steep, high cuts that were originally excavated by the quarry operation that formerly occupied the project site.³ The lower northwestern portion of the project site was graded and terraced into its present topography as a result of excavations and fills from former quarry operations. Fills form steep banks around the outer edges of the terrace.⁴

Soils

In addition to fills that form steep banks around the terrace at the northwestern portion of the project site, various low mounds of fill and boulders exist across the center of the project site. The fill consists of poorly sorted gravelly silts, clays and quarry debris, and appears to be un-engineered. Some of the fill may have been berms intended for runoff control. The southern portion of the site has areas of relatively deep fills underlain by residual soil and bedrock, as well as areas of near-surface bedrock in locations of apparent cuts or natural ground. Bedrock is not normally exposed at the surface. As described in the Geotech Report, soil borings and test pits were used to evaluate soil types and conditions and groundwater levels at the project site. The soil borings revealed the presence of top soil over intensely weathered, soft, closely-bedded sandstone (bedrock). The depth to bedrock ranged from approximately 4 to 20 feet, and the varying depth may be related to old quarry operations as it is possible that old quarry cuts were backfilled with top soil when the quarry operation was halted.⁵

Groundwater

Five borings were drilled at the project site to depths ranging from approximately 24 to 30 feet, and groundwater was encountered only in one boring at approximately 20 feet below the surface. Groundwater levels may fluctuate seasonally and perched water may develop in the rainy season, particularly in bedrock fractures.⁶

² Bay Area Geotechnical Group (BAGG), 2005. *Geotechnical Engineering Investigation, Proposed Residential Development, Fassler Avenue, Pacifica, California*. 21 April.

³ *Ibid.*

⁴ *Ibid.*

⁵ *Ibid.*

⁶ *Ibid.*

Seismic Conditions

The severity of an earthquake is measured by magnitudes and intensities. Magnitude is a measure of the energy released by an earthquake. Intensity is a subjective measure of the perceptible effects of an earthquake at a given point and varies with distance from the epicenter and local geologic conditions. The Modified Mercalli Intensity Scale (MMI) is the most commonly used scale for measurement of earthquake intensity and is shown in Table V.D-1 below.

**Table V.D-1
Modified Mercalli Intensity (MMI) Scale**

Category	Description (Subjective Effects of Earthquake Intensity) ⁷
I	Not felt except by a very few under especially favorable circumstances.
II	Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing.
III	Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibration like passing of truck. Duration estimated.
IV	During the day felt indoors by many, outdoors by few. At night some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Felt by nearly everyone, many awakened. Some dishes, windows, etc., broken; unstable objects overturned. Pendulum clocks may stop.
VI	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Damage negligible in building of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken.
VIII	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.
XI	Few, if any, (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.
XII	Damage total. Lines of sight and level are distorted. Objects thrown into the air.

⁷ USGS, 2016. *The Severity of an Earthquake*. website:
<http://pubs.usgs.gov/gip/earthq4/severitygip.html>, accessed on November 3, 2016.

The coastal region of California is located at the margin of two lithospheric plates of the earth's crust, the Pacific plate to the west and the North American plate to the east. The movement of the Pacific plate northward relative to the North American plate results in the accumulation of stress along the margin of the plates. Earthquakes result as the strain is released by the rupture of the earth. The plate motion has resulted in the development of the San Andreas Fault Systems (SAFS), a series of northwest-southeast trending active faults. The SAFS includes the San Andreas, San Gregorio, Hayward-Rodgers Creek, Calaveras, and other active faults. All of these active regional faults are capable of generating damaging earthquakes. The Working Group on California Earthquake Probabilities has estimated that there is a 72 percent probability that one or more large earthquakes (magnitude 6.7 or greater) will occur in the San Francisco region during the 30-year period starting in 2014.⁸

The Pacifica region is dominated by the northwest-trending San Andreas Fault, a fault that traverses the northern edge of the City of Pacifica before extending into the ocean around Mussel Rock near Daly City. The active faults in the region of the project site which have the greatest probability of a 6.7 magnitude or greater earthquake occurring over the next 30 years are summarized in Table V.D-2.

**Table V.D-2
Regional Faults and Seismicity**

Fault Segment	Probability of 6.7 Magnitude or Greater Earthquake 2014-2044 (percent)	Approximate Distance from Project Site to Closest Point of Fault (miles)	Direction to Closest Point of Fault from Project Site
San Andreas	6.4	2.7	Northeast
Hayward	14.3	21	Northeast
Calaveras	7.4	30	Northeast

Source: USGS.⁹

Other faults located near the project site which have a lower probability of a magnitude 6.7 or greater earthquake over the next 30 years include the Pilarcitos fault (approximately 0.2% probability) and San Gregorio fault (approximately 2.5% probability), which are located approximately 1 mile south and 4.2 miles west of the project site, respectively.¹⁰

⁸ United States Geological Survey (USGS), 2015. UCERF3: A New Earthquake Forecast for California's Complex Fault System, March. Website: <http://pubs.usgs.gov/fs/2015/3009/pdf/fs2015-3009.pdf>, accessed November 2, 2015.

⁹ Ibid.

¹⁰ Working Group on California Earthquake Probabilities (WGCEP), 2015. Google Earth File with Fault Probabilities, available at website <http://www.wgcep.org/UCERF3> accessed on November 3.

Geologic Hazards

Active Faults and Fault Rupture

The SAFS includes numerous faults found by the CGS under the Alquist-Priolo Earthquake Fault Zoning Act (AP Act) to be “active” (i.e., to have evidence of surface rupture in the last 11,000 years). The AP Act faults in the region include the San Andreas, San Gregorio, Hayward, Calaveras, and Concord-Green Valley. The nearest mapped AP Act fault to the project site is the San Andreas fault, approximately 2.7 miles to the northeast.¹¹

Ground Shaking

Ground shaking is a general term referring to the motion of the earth’s surface resulting from an earthquake. Ground shaking is normally the major cause of damage in seismic events. The extent of ground shaking is controlled by the magnitude and intensity of an earthquake, distance from the epicenter, and local geologic conditions. During a 1906-type (magnitude 7.9) earthquake on the San Andreas Fault or a magnitude 7.5 earthquake on the San Gregorio Fault, the project site would be subject to very strong (MMI VIII) seismic shaking (these represents the most damaging expected earthquake scenarios for the project site).¹²

Liquefaction

Liquefaction is the temporary transformation of loose, saturated granular sediments from a solid state to a liquefied state as a result of seismic ground shaking. In the process, the soil undergoes a temporary loss of strength, which commonly causes ground displacement or ground failure to occur. Based on regional hazard mapping, the project site has a low to very low susceptibility to liquefaction hazards.¹³

Landslides

Based on regional hazard mapping, the project site is located in an area of few existing landslides, and debris flow source areas are located to the immediate north of the project site.¹⁴ Although an exceptional rainstorm in January 1982 caused mobilization of almost 500 landslides within the City of Pacifica, based on a site reconnaissance conducted in October 2015 no recent slope failures are in evidence on the project site (i.e., no unvegetated failure scars or scarps were observed), and no evidence of slope failures were noted on the project site

¹¹ California Department of Conservation, 1982. *Alquist-Priolo Special Studies Zones, Montara Mountain Quadrangle, January 1.*

¹² Association of Bay Area Governments (ABAG), 2015a, Interactive Shaking Hazard Map. Website: <http://gis.abag.ca.gov/website/Hazards/?hlyr=northSanAndreas&co=6081>. Accessed November 3 and 12.

¹³ ABAG, 2015b, Interactive Liquefaction Hazard Map. Website: <http://gis.abag.ca.gov/website/Hazards/?hlyr=cgsLiqZones>. Accessed November 3.

¹⁴ ABAG, 2015c, Interactive Landslide Hazard Map. Website: <http://gis.abag.ca.gov/website/Hazards/?hlyr=existingLndslid>. Accessed December 10.

during the 2005 Geotechnical Investigation.¹⁵ Based on examination of morphological features utilizing stereo-paired aerial photographs taken in 1943 (and documented in the site-specific Geotech Report), before the natural topography was obscured by manmade alterations did not indicate any gross slope instabilities in the area of the project site.¹⁶ There are, however some apparent areas of local landsliding at the head of a broad, colluvium-filled ravine that extends downslope from the northern edge of the project site (Figure V.D-1). These areas of local landsliding could be potential sources of future debris-flow activity below the upper edges of the northern side of the project site. Under adverse drainage conditions, the heads of these features could eventually encroach upward, toward the outer edges of the proposed development on the project site.¹⁷ Field observations made during a recent site visit following heavy rains noted that these existing landslides have not moved significantly over the past 10 years as vegetation in the slide areas has been established and no fresh scarps were noted that would indicate recent movement.¹⁸

Expansive Soils

Expansive soils shrink or swell with changes in moisture content. Clay mineralogy, clay content, and porosity of the soil influence the change in volume. The shrinking and swelling caused by expansive clay-rich soil can result in damage to overlying structures. As part of the Geotech Report, soil types were identified and soil samples were collected and analyzed. The near surface soil materials overlying bedrock consisted primarily of gravely, silty, or sandy clays. The Geotech Report indicated that on-site material that is free of organics and debris is likely to meet the requirements of acceptable structural fill.¹⁹

¹⁵ BAGG, 2005. *op. cit.*

¹⁶ *Ibid.*

¹⁷ *Ibid.*

¹⁸ BAGG, 2016. *Update to Geotechnical Engineering Investigation, Proposed Residential Development, 805 Fassler Avenue, Pacifica, California. February 3.*

¹⁹ BAGG, 2005. *op. cit.*

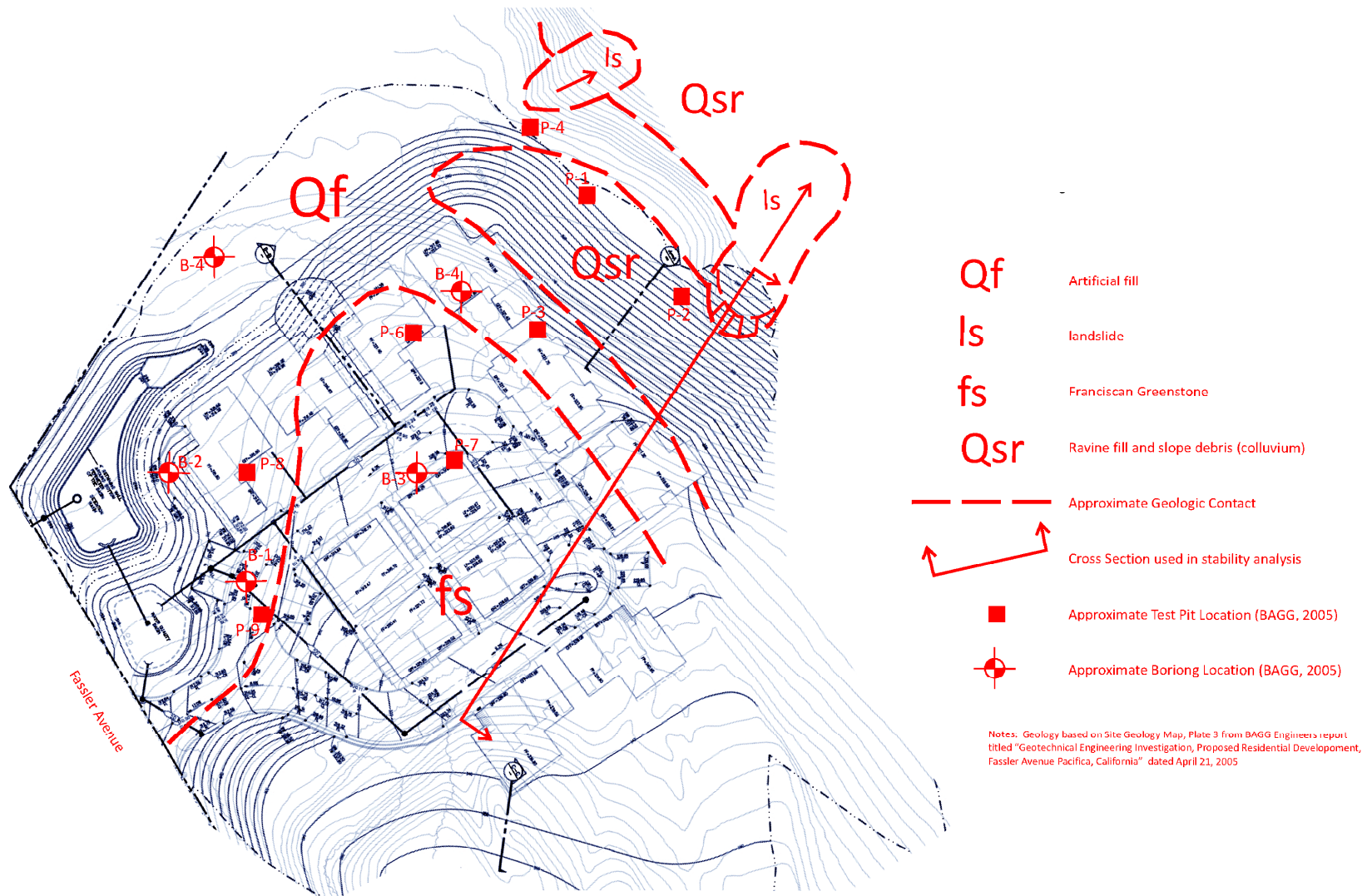


Figure V.D-1 Site Geology Map

Fassler Avenue Residential Project SEIR, Pacifica, California



REGULATORY SETTING

The following discussion describes the regulatory context (including regulatory agencies and policy documents) for geologic and seismic issues as they relate to development on the project site.

Alquist-Priolo Earthquake Fault Zoning Act (AP Act)

The AP Act was passed in 1972, and its main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active earthquake faults. The AP Act requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps. "Earthquake Fault Zones" were called "Special Studies Zones" prior to January 1, 1994. The maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling new or renewed construction. Local agencies must regulate most development projects within the zones. The AP Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. Surface rupture is the most easily avoided seismic hazard. As discussed below, the Seismic Hazards Mapping Act (SHMA), passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically induced landslides.

Seismic Hazards Mapping Act (SHMA)

The SHMA of 1990 (Public Resources Code, Section 2690- 2699.6) directs the Department of Conservation, California Geological Survey (CGS) to identify and map areas prone to liquefaction, earthquake-induced landslides and amplified ground shaking. The purpose of the SHMA is to minimize loss of life and property through the identification, evaluation and mitigation of seismic hazards. The SHMA was passed by the legislature following the 1989 Loma Prieta earthquake. Staff geologists in the Seismic Hazard Zonation Program gather existing geological, geophysical and geotechnical data from numerous sources to produce the Seismic Hazard Zone Maps. They integrate and interpret these data regionally in order to evaluate the severity of the seismic hazards and designate as Zones of Required Investigation (ZORI) those areas prone to liquefaction and earthquake-induced landslides. Cities and counties are then required to use the Seismic Hazard Zone Maps in their land use planning and building permit processes. The Seismic Hazards Mapping Act requires site-specific geotechnical investigations be conducted within ZORI areas to identify and evaluate seismic hazards and formulate mitigation measures prior to permitting most developments designed for human occupancy. Mapping by CGS of earthquake induced liquefaction and landslides hazards is currently planned for the area of the project site, but has not yet been performed.²⁰

²⁰ ABAG, 2015d, Interactive Earthquake-Induced Landslide Hazard Map. Website: <http://gis.abag.ca.gov/website/Hazards/?hlyr=cgsLndsldZones>. Accessed December 3.

California Building Code

The International Building Code (IBC) is published by the International Code Council (ICC) and is the widely adopted model building code in the United States. The California Building Code (CBC) is another name for the body of regulations known as the California Code of Regulations (CCR), Title 24, Part 2, which is a portion of the California Building Standards Code (CBSC). The CBC incorporates, by reference, the IBC requirements with necessary California amendments. Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable.

Compliance with the 2013 CBC requires that structures be designed and constructed to resist the effects of earthquake motions. Every site is assigned a Site Class based on site soil properties and a Seismic Design Category based on the severity of the design earthquake ground motion at the site.

City of Pacifica

The City's Building Division reviews construction plans and issues permits for construction to ensure that designs comply with the latest CBC requirements. The City's General Plan includes the following policies to avoid or mitigate seismic and geologic hazards which would be applicable to the proposed project:²¹

Safety Element Policies

Prohibit development in hazardous areas unless detailed site investigation ensures that risks can be reduced to acceptable levels.

Support public awareness of hazards by providing citizens with hazard information, results of studies, emergency procedures and alternatives. When appropriate, buyers shall be notified of geotechnical uncertainties or potential risks and costs.

Prohibit mitigation measures for potential geotechnical hazards if the mitigation measures could adversely affect surrounding public or private property. For example, use of the public right-of-way as a landslide repository could adversely affect public health, safety, and welfare.

²¹ City of Pacifica, 2014. *Draft General Plan, Chapter 8: Safety. March.*

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the proposed project could have a significant environmental impact if it would:

- (a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - (i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42;
 - (ii) Strong seismic ground shaking;
 - (iii) Seismic-related ground failure, including liquefaction;
 - (iv) Landslides;
- (b) Result in substantial soil erosion or the loss of topsoil;
- (c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- (d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or
- (e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Geology and Soils Issues not Further Analyzed

The following issues were addressed in the Initial Study for the proposed project (see Appendix A) and Section V.A of the Draft SEIR and were determined to result in no impact or a less-than-significant impact and not warrant further analysis:

- Fault Rupture - the proposed project is not within a known earthquake fault zone. Although the site is located within a zone of regional seismic activity, no known active faults are identified as traversing the project site or adjacent properties, and therefore the fault rupture hazard is less than significant and not further discussed.
- Seismic-Related Ground Failure, Including Liquefaction - regional mapping and the results of a site-specific geotechnical investigation indicate that the likelihood of the presence of saturated, granular deposits is very low. As such, the susceptibility of

materials to liquefaction is very low, and therefore the liquefaction hazard is less than significant and not further discussed.

- Septic Systems or Alternative Waste Water Disposal Systems - the project does not propose on-site septic tanks or alternative waste water disposal systems; the project would be connected to the existing sanitary sewer system, and therefore there would be no impact associated with septic systems and this is not further discussed.

Project Impacts and Mitigation Measures

Impact GEO-1: Strong Seismic Ground Shaking

Construction and operation of the proposed project would not impact the potential for a seismic event to occur in the area. Grading and excavation for the development would be shallow compared to the bedrock depth that would need to be reached to trigger a seismic event. No other activity associated with the construction or operation of the development is known to trigger a seismic event. Therefore, the construction and operation of the proposed project would have **no impact** on the risk of loss involving strong seismic ground shaking.

Impact GEO-2: Landslides

The Geotechnical Report did not identify evidence of slope failure or unstable slopes within the project site; however, landslides and debris flows are a recognized hazard in the Pacifica area, and the Geotech Report identified locations of previous landslide (debris flow) activity that extends downslope from the northern edge of the project site. These locations could be potential sources of future debris-flow activity below the upper edges of the northern side of the project site. If the grading and surface/subsurface drainage of project site is not appropriately designed and constructed, drainage from the project site could contribute to the saturation of soil in the nearby areas where local landslide scars were observed and potentially contribute to the triggering of new slope failures. Additionally, the heads of these landslide areas could eventually encroach upward, toward the outer edges of the proposed development on the project site,²² which could eventually result in damage to proposed improvements on the project site. As discussed above, failure of the proposed fill slope along the north side of the project site could also occur if the fill slope is not appropriately designed and constructed. This is a potentially significant impact. This impact can be reduced to a **less-than-significant** level via implementation of Mitigation Measure GEO-1.

Mitigation Measure GEO-1:

A site-specific design level geotechnical evaluation shall be performed for the proposed project that shall include recommendations for seismic design, management of adverse soil conditions, grading, surface/subsurface drainage, and construction of structures

(e.g., retaining walls). The design level geotechnical evaluation report shall be certified by a licensed professional geotechnical engineer (the Geotechnical Engineer of Record). All design measures, recommendations, design criteria, and specifications set forth in the design-level geotechnical evaluation shall be implemented as a condition of project approval. In addition, the design level geotechnical evaluation shall include a slope stability analysis to evaluate whether the proposed project could increase the instability of off-site landslides or be adversely affected by encroachment of off-site landslides onto the project site. The design level geotechnical evaluation shall also include a slope stability analysis for the proposed design of the fill slope on the north side of the project site which shall be updated if the design recommendations for this fill slope change from those presented in the Geotech Report Update. A third-party review of the slope stability analyses presented in the design level geotechnical evaluation shall be performed by a licensed professional Geotechnical Engineer or Certified Engineering Geologist. Any remediation measures to address the potential impacts included in the design level geotechnical evaluation or third-party review of the design level geotechnical evaluation shall be implemented by the applicant. A copy of the draft design level geotechnical evaluation, third party review comments, and final design level geotechnical evaluation shall be provided to the City.

The Geotechnical Engineer of Record shall perform oversight and inspection during construction activities to ensure that the design recommendations presented in the design level geotechnical evaluation report and third-party review are implemented. During grading and site preparation activities, the Geotechnical Engineer of Record shall regularly report to the City, providing written updates monthly, at minimum.

Impact GEO-3: Soil Erosion and Loss of Topsoil

During the construction phase of the proposed project, grading would result in the removal of vegetation, disturbance of surface soil, and changes in surface slopes and drainage patterns. As described in the Hydrology and Water Quality section, exposure of disturbed soils to rainfall and runoff present the potential for significant erosion during the construction phase of the project. However, compliance with existing NPDES regulations, which require preparation and implementation of a Stormwater Pollution Prevention Plan, would ensure impacts related to erosion of topsoil would be **less than significant**.

During the operation phase of the project, soils would be covered with buildings, pavement, and landscaping and not subject to erosion; therefore, potential post-construction impacts related to erosion of topsoil would be **less than significant**.

Impact GEO-4: Unstable Soils

The Geotechnical Report identified areas of fill presumably placed during former quarrying operations at the project site. The most obvious filled area is along the outer margin of the

bench (referred to also as the 'terrace') in the northwestern portion of the project site along the outside of the historic road. Other mounds of fill and woody debris are located on the 'terrace' and areas of deeper fill were encountered in the southern portion of the project site. The depth of fill materials varies across the project site. The presence of these fill materials could result in settlement/subsidence and lateral spreading or even landslides along the edges of the filled 'terrace' area if not properly managed or exacerbated by the project. This is a potentially significant impact which would be mitigated to a less-than-significant level by implementation of Mitigation Measure GEO-1 which requires preparation and implementation of a site-specific design level geotechnical evaluation report.

Impact GEO-5: Expansive Soils

Expansive soils can result in damage to building foundations and flatwork such as sidewalks and driveways, or damage to sub-surface utility installations. In particular, flatwork can present tripping hazards and uneven surfaces that may be hazardous to the mobility impaired. The Geotech Report identified clayey fill materials with medium plasticity at the project site. These clayey soils may be expansive. The project does not include any improvements that would exacerbate any expansive soil hazards. Implementation of Mitigation Measure GEO-1 would ensure impacts would be ***less than significant***.

CUMULATIVE IMPACTS

Cumulative Significance Criteria

For purposes of this SEIR, the proposed project would have a significant cumulative effect if:

- the cumulative effects of related projects (past, current, and probable future projects) are not significant and the incremental impact of implementing the proposed project is substantial enough, when added to the cumulative effects of related projects, to result in a new cumulatively significant impact; or
- the cumulative effects of related projects (past, current, and probable future projects) are already significant and implementation of the proposed project makes a considerable contribution to the effect.

The standards used herein to determine considerability are that either the impact must be substantial or must exceed an established threshold of significance.

Cumulative Analysis

The geographic scope for cumulative impacts related to geology and soils would include projects within Pacifica particularly those immediately adjacent to the project site (Table III-1).

The potential cumulative impacts for geology, soils, and seismicity do not extend far beyond a project's boundaries, since geological impacts are confined to discrete spatial locations and do not generally combine to create a cumulative impact condition. The exception to this would occur where a large geologic feature (e.g., fault zone, massive landslide) might affect an extensive area, or where the development effects from the project could affect the geology of an off-site location. These circumstances are not presented as a result of implementation of the proposed project, and so do not apply. Conformance with the CBC and the mitigation measures described above would reduce project-related geohazard impacts to a less-than-significant level. Therefore, based on the thresholds of significance cited above, cumulative geotechnical impacts would be less than significant.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures listed above would reduce project impacts related to geology and soils to a ***less-than-significant*** level.

V. ENVIRONMENTAL IMPACT ANALYSIS

E. HYDROLOGY AND WATER QUALITY

INTRODUCTION

This Draft SEIR chapter describes the environmental setting for the proposed project, including a description of the watershed and groundwater basin, surface runoff and drainage, flooding, and water quality, based on available information provided as part of the project application, published reports, and a site visit conducted on October 12, 2015. The environmental setting also describes the project regulatory framework. Following the setting, impacts that could result from implementation of the proposed project are evaluated, and mitigation measures to reduce impacts to a less-than-significant level are recommended, where appropriate.

ENVIRONMENTAL SETTING

Watershed and Groundwater Basin Characteristics and Project Site Topography, Stormwater Runoff, and Drainage

Watershed Description

The project site is located within the 1,600-acre Calera Creek watershed. Calera Creek is a perennial stream in the lower portions of the watershed, but intermittent above the City's wastewater treatment plant (located near the mouth of Calera Creek, west of Highway 1).¹ Calera Creek has two main waterways (both of which discharge to the Pacific Ocean): the main channel and the smaller southern fork (referred to as Rockaway Creek). The project site is in the Rockaway Creek subwatershed.

The Calera Creek watershed has a semi-arid Mediterranean coastal climate characterized by cool summers and mild winters. The average annual precipitation is about 30 inches (for the period between 1983 and 2012), with 83 percent of the rainfall occurring between November and March.²

¹ Dyett & Bhatia, 2015, *Pacifica General Plan Environmental Impact Report*, April.

² Western Regional Climate Center, 2015, *Climate Summary for Station PACIFICA 4 SSE, CALIFORNIA (046599)*, website: <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6599> (accessed 10/15/2015).

Groundwater Basin Description

The project site, which is underlain by Franciscan bedrock,³ is not located within an identified groundwater basin.⁴ This type of bedrock, which locally includes sandstone, greenstone, and limestone, has relatively low primary permeability (i.e., ability to transmit water through the rock). In this setting, groundwater would be expected to occur in fractures within the bedrock, but this groundwater resource is not typically regarded as an aquifer. Additionally, the site is located on the steep south margin of a valley. The valley provides a discharge boundary for groundwater contained in the fractured bedrock.

Subsurface geotechnical investigation of the site conducted in support of the previously proposed Prospects Residential Project development project in 2005 included drilling and sampling of five exploratory borings and excavation of nine test pits. The depths of investigation at the borings ranged from 23.8 to 29.5 feet and up to 13 feet in the test pits. Groundwater was encountered in only one of the borings at a depth of approximately 20 feet below the ground surface.⁵

Project Site Characteristics

The proposed project site is located on a topographic ridge. The lower (western) portion of the site has been partially leveled, creating a “bench.” There are no streams traversing the project site. The project site has an elevation of approximately 290 feet above mean sea level (msl) near the northwestern margin, rising to about 440 above msl at the southeastern portion of the site. The ridge, upon which the site is located, creates a drainage divide. Runoff from the northeast portion of the site flows overland down a relatively steep slope toward Rockaway Creek, eventually discharging to the Pacific Ocean. Runoff from the southwest portion of the site flows toward Fassler Avenue and is collected in an existing 15-inch underground storm drainage pipe along the northern edge of Fassler Avenue.⁶

With the exception of a degraded asphalt road that intersects Fassler Avenue and traverses the site to the north and then loops around to the southeast (roughly parallel to Fassler Avenue), the project site is unpaved and covered with vegetation. No on-site drainage infrastructure was observed during the October 2015 site reconnaissance by the SEIR authors.

³ Bay Area Geotechnical Group (GAGG), 2005, *Geotechnical Engineering Investigation, Proposed Residential Development, Fassler Avenue, Pacifica, California, consulting report prepared for Home Pride Construction, 24 p., Figures and Appendices, April.*

⁴ California Department of Water Resources, 2003, *Basins and Subbasins of the San Francisco Bay Hydrologic Region, Bulletin 118, website:*
<http://www.water.ca.gov/groundwater/bulletin118/sanfranciscobay.cfm> (accessed 10/15/2015).

⁵ *Ibid.*

⁶ Wood Rodgers, Inc., 2016, *Draft 801 Fassler – Drainage Technical Memorandum, February 17.*

Flooding and Coastal Hazards

Storm-related Flooding

The project site is not located within or adjacent to a 100-year flood hazard zone identified by the Federal Emergency Management Agency's Flood Insurance Rate Mapping program.⁷ The elevation and topographic setting of the project reduce the potential for any flooding.

Dams and Levees

There are no dams located within Pacifica that fall under the jurisdiction of the state of California or are owned and operated by a federal agency. In addition, there are no dams located outside of the Pacifica with inundation areas that could affect the City.⁸

Sea Level Rise

Over the past century, sea level has risen nearly eight inches along the California coast, and modeling scenarios suggest very substantial increases in sea level as a significant impact of climate change over the coming century. Maps showing the sea level rise risk along the coast were generated by the Pacific Institute by adding projected sea level rise estimates to water levels associated with a 100-year flood event, and assuming a 55 inch increase in sea level by the year 2100.⁹ The map for the project area shows that the project would not be at risk from sea level rise.¹⁰

Tsunamis

Tsunamis are long-period waves generated during earthquakes or underwater landslides that disturb the ocean floor. Tsunami inundation maps for San Mateo County show that the project site is not located within a tsunami inundation hazard area.¹¹

⁷ Federal Emergency Management Agency (FEMA), 2012. *Flood Insurance Rate Map (FIRM), City of Pacifica, San Mateo County, California, Community Panel Numbers 06081C0126E*. October 16.

⁸ Dyett & Bhatia, 2015, *op.cit.*

⁹ Pacific Institute, *The Impacts of Sea-Level Rise on the California Coast*, May 2009.

¹⁰ Pacific Institute, *California Flood Risk: Sea Level Rise, Montara Mountain Quadrangle*, 2009.

¹¹ Association of Bay Area Governments (ABAG), 2015, *Tsunami Inundation Map for Emergency Planning*, website: <http://gis.abag.ca.gov/website/Hazards/?hlyr=tsunami>, (accessed: May 15, 2015).

Water Quality Conditions

Rockaway Creek

According to the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan),¹² beneficial uses of Calera Creek and its tributaries are habitat for rare and endangered species; warm freshwater habitat; wildlife habitat; and both contact and non-contact water recreation.

Little to no water quality information is available for Rockaway Creek. Rockaway Creek is not included on the State Water Resources Control Board's 2010 303(d) list of impaired waters.¹³ Impaired water bodies refer to those that do not meet one or more of the water quality standards established by the state.

Groundwater

As discussed above, the project site is not located within an identified groundwater basin. No information on groundwater quality has been identified.

REGULATORY SETTING

Municipal Stormwater Management Requirements

Federal, State and Regional Requirements

Pursuant to Section 402 of the Clean Water Act (CWA)¹⁴ and the Porter-Cologne Water Quality Control Act,¹⁵ municipal stormwater discharges in the City of Pacifica (the City is part of the San Mateo Countywide Water Pollution Prevention Program) are regulated under the San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System

¹² San Francisco Bay Regional Water Quality Control Board. *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan), incorporating all approved amendments as of March 20 2015.*

¹³ State Water Resources Control Board (SWRCB). *2010 CWA Section 303(d) List of Water Quality Limited Segment, Region 2, approved by U.S. EPA October 2011, website: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml (accessed 10/19/15)*

¹⁴ Federal regulations for controlling discharges of pollutants from municipal separate storm sewer systems (MS4s), construction sites, and industrial activities were incorporated into the National Pollutant Discharge Elimination System (NPDES) permit process by the 1987 amendments to the Clean Water Act (CWA) and by the subsequent 1990 promulgation of federal stormwater regulations issued by the U.S. Environmental Protection Agency (EPA). In California, the EPA delegated its authority to the State Water Resources Control Board (State Water Board) to issue NPDES permits.

¹⁵ Under the Porter-Cologne Water Quality Control Act (Porter-Cologne), the State Water Board has the ultimate authority over state water rights and water quality policy. Porter-Cologne also established the nine Regional Water Quality Control Boards to oversee water quality at the local/regional level. The State Water Board shares authority for implementation of the CWA and the Porter-Cologne Act with the Regional Water Quality Control Boards.

(NPDES) Permit, Order No. R2-2009-0074, NPDES Permit No. CAS612008 (MRP). The MRP is overseen by the San Francisco Bay Regional Water Quality Control Board (Water Board).

MRP Provision C.3 addresses post-construction stormwater management requirements for new development and redevelopment projects that add and/or replace 5,000 square feet or more of impervious area. Provision C.3 requires the City to require incorporation of site design, source control and stormwater treatment measures into development projects, to minimize the discharge of pollutants in stormwater runoff and non-stormwater discharges, and to prevent increases in runoff flows. The MRP requires that Low Impact Development (LID)¹⁶ methods shall be the primary mechanism for implementing such controls.

MRP Provision C.3.g pertains to hydromodification management.¹⁷ The MRP requires that stormwater discharges do not cause an increase in the erosion potential of the receiving stream over the existing condition. Increases in runoff flow and volume shall be managed so that the post-project runoff shall not exceed estimated pre-project rates and durations, where such increased flow and/or volume is likely to cause increased potential for erosion of creek beds and banks, silt pollutant generation, or other adverse impacts on beneficial uses due to increased erosive force. Because the project would add one or more acres of impervious area, and is located within a hydromodification control area per the MRP, the project would be subject to the hydromodification management control standard.¹⁸

San Mateo County and City of Pacifica Requirements

The San Mateo Countywide Water Pollution Prevention Program has summarized the requirements for development projects in the *C.3 Stormwater Technical Guidance* (Version 4.1, October 2014). The Guidance provides direction on the development review process, including a Planning Permit Submittal Checklist for information to be submitted with the building permit application. The Guidance provides direction on selecting stormwater low impact site design, source control, treatment, and hydromodification management control best management practices (BMPs). The Guidance also includes requirements for preparing an Operation and Maintenance Plan, which is to be submitted to the City for review with the building permit application. Also provided are instructions for preparing an annual report on operation and maintenance activities to the City.

¹⁶ *The goal of LID is to reduce runoff and mimic a site's predevelopment hydrology by minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring (i.e., evaporating water from soil and plants), and/or biotreating stormwater runoff close to its source.*

¹⁷ *Hydromodification or hydrograph modification causes streambank erosion, channelization, increased flood flows, and other physical modifications that can adversely impact aquatic ecosystems due to increased sedimentation and reduced water quality (e.g., higher water temperatures, lower dissolved oxygen concentrations).*

¹⁸ *San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit, Order No. R2-2009-0074, NPDES Permit No. CAS612008 (MRP), HM Control Area Map Revised March 27, 2009, Attachment E*

In accordance with the *C.3 Stormwater Technical Guidance*, the City requires the submittal of a *Project Applicant Checklist for NPDES Permit Requirements* during the building permitting process, which documents the project's post-construction requirements for stormwater management. The Checklist also addresses requirements for the construction phase of the project, and requires implementation of specific erosion control, sediment control, and waste management BMPs. The City also requires that all projects that need to incorporate treatment and/or hydromodification management control BMPs address long term operation and maintenance. The project applicant is required to enter into an agreement of responsibility, funding, access assurance, and reporting for ongoing operation and maintenance of permanent treatment and hydromodification management control BMPs.

Title 6 (Sanitation and Health), Chapter 12 (Storm Water Management and Discharge Control) of the Pacifica Municipal Code includes the following provisions:

- The discharge of non-stormwater discharges to the City storm sewer system is prohibited, unless the discharge is permitted under a NPDES permit or is considered a conditionally exempt non-stormwater discharge (such as discharges from potable water sources);
- Owners of facilities that could be potential stormwater pollutant sources shall undertake practicable measures to reduce such pollutants;
- Construction contractors shall provide filter materials at the catch basin to retain any debris and dirt flowing into the City's storm sewer system;
- The City may establish controls on the volume and rate of storm water runoff from new developments and redevelopments as may be appropriate to minimize the discharge and transport of pollutants; and
- Persons owning or leasing property through which a watercourse passes shall keep and maintain the portion of the watercourse within the property reasonably free of trash, debris, excessive vegetation, and other obstacles which would pollute, contaminate, or significantly retard the flow of water through the watercourse; shall maintain existing privately owned structures within a watercourse so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse; and shall not remove healthy bank vegetation beyond that actually necessary for maintenance, nor remove vegetation in such a manner as to increase the vulnerability of the watercourse to erosion.

Construction Phase Stormwater Management Requirements

Federal and State Requirements

Pursuant to CWA Section 402 and the Porter-Cologne Water Quality Control Act, the State Water Resources Control Board (State Water Board) adopted an NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, NPDES No. CAS000002 (Construction General Permit). To obtain coverage under the Construction General Permit, the project applicant must provide via electronic submittal, a

Notice of Intent, a Storm Water Pollution Prevention Plan (SWPPP), and other documents required by Attachment B of the Construction General Permit. Activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as grubbing or excavation. Construction General Permit activities are regulated at a local level by the San Francisco Bay Regional Water Quality Control Board (Water Board).

The Construction General Permit uses a risk-based permitting approach and mandates certain requirements based on the project risk level (i.e., Level 1, Level 2, or Level 3, with Level 3 having the highest risk). The project risk level is based on the risk of sediment discharge and the receiving water risk. The sediment discharge risk depends on the project location and timing (i.e., wet season versus dry season activities). The determination of the project risk level would be made by the project applicant when the Notice of Intent is filed.

The performance standard in the Construction General Permit is that dischargers shall minimize or prevent pollutants in stormwater discharges and authorized non-stormwater discharges through the use of controls, structures, and management practices that achieve Best Available Technology (BAT) for treatment of toxic and non-conventional pollutants and Best Conventional Technology (BCT) for treatment of conventional pollutants.¹⁹ The permit also imposes numeric action levels²⁰ (Level 2 and Level 3 projects) and numeric effluent limits (Level 3 projects) for pH and turbidity, as well as minimum BMPs that must be implemented at all sites.

A SWPPP must be prepared by a Qualified SWPPP Developer that meets the certification requirements in the Construction General Permit. The purpose of the SWPPP is to: (1) to help identify the sources of sediment and other pollutants that could affect the quality of stormwater discharges; and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges resulting from construction activity. Operation of BMPs must be overseen by a Qualified SWPPP Practitioner that meets the requirements outlined in the permit. For Level 2 and Level 3 projects, the discharger must also prepare a Rain Event Action Plan as part of the SWPPP that must be designed to protect all exposed portions of the construction site; a Rain Event Action Plan must be prepared 48 hours before each predicted qualifying rain event.

The SWPPP must also include a construction site monitoring program. The monitoring program includes, depending on the project risk level, visual observations of site discharges, water quality monitoring of site discharges (pH, turbidity, and non-visible pollutants, if applicable), and receiving water monitoring (pH, turbidity, suspended sediment concentration, and bioassessment).

¹⁹ As defined by U.S. EPA, Best Available Technology (BAT) is a technology-based standard established by the CWA as the most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters. The BAT effluent limitations guidelines, in general, represent the best existing performance of treatment technologies that are economically achievable. Best Conventional Technology (BCT) is a technology-based standard that applies to treatment of conventional pollutants, such as total suspended solids.

²⁰ Numeric action levels are used as a warning to evaluate if BMPs are effective and to take necessary corrective actions.

City of Pacifica Requirements

Title 8 (Building Regulations) Chapter 1 (Building Code), section 8-1.21 of the Pacifica Municipal Code amends Appendix J of the California Building Code to state that any grading, excavating or filling that requires a grading permit, and occurs between November 1 and March 31 shall use temporary devices to prevent erosion. Proposed erosion control devices or methods shall be submitted with the grading plans to the Building Official and approval of both the grading plan and the erosion control devices and methods must be obtained not later than October 31. All such approved erosion control devices or methods shall be installed not later than November 1 for previously approved ongoing earthwork operations.

As discussed above under the City of Pacifica Requirements for Municipal Stormwater Management, per the *Project Applicant Checklist for NPDES Permit Requirements*, the project applicant must implement specific BMPs for erosion and sediment control, and waste management during the construction phase, and incorporate the BMPs into project plans.

ENVIRONMENTAL IMPACTS

This section analyzes hydrologic and water quality impacts that could result from implementation of proposed project during the construction and post-construction (operational phase) periods. The section begins with the criteria of significance, which establish the threshold for determining whether an impact is significant. Impacts determined to be less than significant in the Initial Study are discussed, followed by impacts considered to be potentially significant per the Initial Study. Mitigation measures are recommended as necessary to reduce identified impacts to less-than-significant levels.

Thresholds of Significance

Based on the CEQA Guidelines, the project would be expected to have a significant drainage, flooding, or water quality impact if it would:

- (a) Violate any water quality standards or waste discharge requirements;
- (b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;
- (c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- (d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

- (e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- (f) Otherwise substantially degrade water quality;
- (g) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- (h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows;
- (i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- (j) Expose people or structures to inundation by seiche, tsunami or mudflow.

Hydrology and Water Quality Issues not Further Analyzed

The following issues were addressed in the Initial Study (see Appendix A) and Section IV.A of the Draft SEIR and were determined to result in no impact or a less-than-significant impact and not warrant further analysis:

- Depletion of Groundwater Supplies and Interference with Groundwater Recharge
- Placing Housing within a 100-Year Flood Hazard Area
- Placing Structures within a 100-Year Flood Hazard Area that Could Impede or Redirect Flood Flows
- Inundation as a Result of Dam or Levee Failure
- Risk from Sea Level Rise, Tsunamis, Seiches, and Mudflows

Project Impacts and Mitigation Measures

Impact HYDRO-1: Violate Water Quality Standards or Waste Discharge Requirements or Otherwise Degrade Water Quality during the Construction Phase

Project construction period activities could generate stormwater runoff that could cause or contribute to a violation of water quality standards or waste discharge requirements, provide substantial additional sources of polluted runoff, or otherwise substantially degrade the water quality of Rockaway Creek and/or enter the storm drain system in Fassler Avenue and be discharged to the Pacific Ocean.

In areas of active construction, soil erosion may result in discharges of sediment-laden stormwater runoff, if not properly controlled, and could contribute to degradation of downstream water quality and impairment of beneficial uses. Sediment can also be a carrier for other pollutants, such as heavy metals, nutrients, pathogens, oil and grease, fuels and other petroleum products. In addition to sediment, other pollutants associated with construction activities, such as trash, paint,

solvents, and sanitary waste from portable restrooms, can discharge into and impair receiving waters if released during construction.

Consistent with the requirements of the statewide Construction General Permit, the project applicant would be required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) designed to reduce potential adverse impacts to surface water quality through the project construction period. Per Construction General Permit, the SWPPP would be required to address the following objectives: (1) all pollutants and their sources, including sources of sediment associated with construction, construction site erosion and all other activities associated with construction activity, are controlled; (2) where not otherwise required to be under a Water Board permit, all non-storm water discharges are identified and either eliminated, controlled, or treated; (3) site Best Management Practices (BMPs) are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology and Best Conventional Technology (BAT/BCT) standard; and (4) stabilization BMPs installed to reduce or eliminate pollutants after construction are completed.

The SWPPP must be prepared by a Qualified SWPPP Developer and must include the minimum BMPs required as applicable, based on final determination of the project's Risk Level status (to be determined as part of the Notice of Intent for coverage under the Construction General Permit). The SWPPP must also include the erosion and sediment control and construction BMPs required by the City of Pacifica *Project Applicant Checklist for NPDES Permit Requirements*.

The SWPPP must include a construction site monitoring program that identifies requirements for dry weather visual observations of pollutants at all discharge locations. The SWPPP is subject to the approval of the City, prior to submittal to the Water Board. The SWPPP must be submitted to the Water Board prior to construction. A Qualified SWPPP Practitioner (QSP) would be responsible for implementing the BMPs at the site and reporting to the City. Weekly monitoring would occur for the duration of the construction period and water quality monitoring reports would be submitted following each rain event. The City's approval would be required for these reports, prior to their submittal to the Water Board. An annual report would also be required by the Water Board on September 1st after the start of construction. The QSP would also be responsible for performing all required monitoring, and BMP inspection, maintenance and repair activities. If the project is Risk Level 2 or 3, the project applicant must also prepare a Rain Event Action Plan as part of the SWPPP.

The following are the types of BMPs that may be considered for implementation and incorporated into the SWPPP, as determined by the QSP. The project construction BMPs are subject to review and approval by the Water Board and the City.

Wind Erosion BMPs

Application of water or other dust palliatives to prevent or minimize dust nuisance.

Erosion Control BMPs

- Scheduling
- Preservation of Existing Vegetation
- Hydraulic Mulch
- Hydroseeding
- Soil Binders
- Straw Mulch
- Wood Mulching
- Earth Dikes and Drainage Swales
- Velocity Dissipation Devices
- Compost Blankets
- Soil Preparation / Roughening

Temporary Sediment Control BMPs

- Silt Fence
- Sediment Basin
- Sediment Trap
- Check Dam
- Fiber Rolls
- Street Sweeping and Vacuuming
- Straw Bale Barrier
- Storm Drain Inlet Protection
- Compost Socks and Berms
- Gravel Bag Berm

Tracking Control BMPs

- Stabilized Construction Entrance/ Exit
- Stabilized Construction Roadway
- Entrance/Outlet Tire Wash

Waste Management and Materials Pollution Control BMPs

- Stockpile Management
- Spill Prevention and Control
- Solid Waste Management
- Hazardous Waste Management
- Contaminated Soil Management
- Concrete Waste Management
- Sanitary/ Septic Waste Management

Existing NPDES regulations require preparation and implementation of a site-specific SWPPP in accordance with the Construction General Permit. This requirement, in combination with obtaining a grading permit from the City, and complying with the Erosion and Sediment Control and Construction BMPs required by the *Project Applicant Checklist for NPDES Permit Requirements*, would ensure that impacts to water quality associated with discharges of construction site runoff would be **less than significant**.

Impact HYDRO-2: Violate Water Quality Standards or Waste Discharge Requirements or Otherwise Degrade Water Quality during the Operation Phase

The proposed project would generate stormwater runoff that could cause or contribute to a violation of water quality standards, provide substantial additional sources of polluted runoff, or otherwise substantially degrade the water quality of Rockaway Creek and/or the Pacific Ocean. In addition, runoff from the project could alter the rate, volume, or duration of discharges to receiving waters, which could cause substantial erosion and siltation and contribute to stream channel hydromodification impacts.

The preliminary drainage plan (Appendix F) proposes a series of storm drain inlets and storm drains in the private driveway (and beyond) to capture runoff and direct it to the water quality basin proposed to be located near the project entrance (Figure IV-10) on the Fassler Avenue side of the project site.²¹ No runoff from the new development would flow north toward Rockaway Creek. From the water quality basin, runoff would be directed to the adjacent detention basin and eventually to the Fassler Avenue stormwater pipeline.

The proposed project would increase the impervious area of the approximately 11.2-acre site. Under existing conditions, the only pavement at the site is an approximately 15-foot wide degraded asphalt road that is approximately 1,300 feet long (totaling less than 0.5 acres).²² Most of the degraded road (in the southeastern portion of the site) is located in the portion of the site that would remain undeveloped. Site development and placement of new impervious cover would be restricted to the northwestern portion of the site. Based on the applicant's preliminary drainage plan, 1.2 acres of new impervious cover would be created, comprised of 0.7 acres for the building lots, 0.4 acres of pavement, and 0.1 acres for the water quality and detention ponds.²³

The project proposes to collect all runoff from new impervious areas and direct that runoff to a water quality basin, then, as needed during large storms, to a peak flow reduction detention basin (hereafter referred to as "detention basin"), then to the 15-inch underground stormwater pipeline in Fassler Avenue. The Fassler Avenue pipeline conveys runoff downslope to the west where it is discharged on the north side of Fassler Avenue into a natural drainage course that conveys it eventually to the creek running generally along Rockaway Beach Boulevard. The proposed project is located in an area that is mapped as being subject to hydromodification management control requirements (since runoff from the project site would be discharged to an unlined drainage), and must comply with the San Mateo Countywide Water Pollution Prevention Program requirements, such that stormwater runoff discharges do not increase the erosion potential of the receiving water over the pre-project condition.

²¹ Wood Rodgers, Inc., 2016. *Preliminary Grading and Drainage Plan, Fassler Avenue, Pacifica, Sheet C-4, updated February 17.*

²² *This road is so degraded it is considered a pervious surface for the hydraulic analysis.*

²³ Wood Rodgers, 2016, *op.cit.*

The applicant's preliminary drainage plan includes water quality and detention basins designed to address the potential hydromodification impacts.²⁴ In the preliminary design, the detention basin outlet structures have been sized and located so that flows from the basins are restricted (and excess runoff is accumulated in the basins) during the most intense portions of the storms. As the storm subsides, discharges from the basins would continue at the reduced discharge rate until the basins are emptied. By managing the runoff this way, the discharge rate from the site is never substantially increased over existing conditions. The project could be a source of pollutants such as sediment; metals; organic compounds such as pesticides, polynuclear aromatic hydrocarbons, and oil and grease; pathogens; nutrients; and trash and debris. If not properly controlled, these pollutants could accumulate on impervious surfaces, come into contact with stormwater runoff, and be discharged into Rockaway Creek and/or the Fassler Avenue storm drain system (and eventually the Pacific Ocean).

The MRP specifies stormwater treatment requirements for development projects to be met by using stormwater harvesting and reuse, evapotranspiration, and/or infiltration, whenever feasible. The preliminary drainage plan includes completed worksheets (C.3 and C.6 Development Review Checklist worksheets developed by the San Mateo Countywide Water Pollution Prevention Program) that evaluate the feasibility of the proposed project to infiltrate stormwater and/or to harvest and reuse stormwater. The analysis indicates the project site soils are not capable of adequately infiltrating stormwater and that the project does not meet the criteria for harvesting and reuse. Therefore, the project proposes to meet the water quality treatment requirement by constructing and operating a water quality basin. All runoff from the proposed development would be directed to the 1,144 square foot bioretention water quality basin before it is directed to the detention basin and eventually discharged to the Fassler Avenue drainage pipe. Bioretention features typically capture and temporarily store stormwater runoff and pass it through a filter bed of engineered soil media composed of sand, soil, and organic matter. Filtered runoff may be collected and returned to the conveyance system, or allowed to infiltrate into the underlying soil.

In accordance with the MRP, the County's *C.3 Stormwater Technical Guidance*, and the City of Pacifica's requirements, the project applicant would be required to submit a *Project Applicant Checklist for NPDES Permit Requirements* to the City during the building permit phase that shows the design-level post-construction BMPs that will be incorporated in the project to maintain hydrologic pre-project conditions. The project applicant must also submit an Operation and Maintenance (O&M) Plan to the City with the application for the building permit. The O&M Plan must identify the party responsible for long-term maintenance of BMPs, funding sources, and a maintenance plan including a schedule of activities for maintenance of the water quality basin and detention basin. The project applicant or property owner must also enter into a maintenance agreement with the City, to indicate that the project applicant or property owner is responsible for long-term maintenance. The project applicant or property owner would be required to submit an annual report to the City documenting the O&M activities for the BMPs.

²⁴ Wood Rodgers, Inc., 2016, Draft 801 Fassler – Drainage Technical Memorandum, February 17.

Existing NPDES regulations require preparation and implementation of a site-specific stormwater control plan in accordance with the MRP. This requirement, in combination with the City's technical review of the plan and oversight during the implementation phase, would ensure that the project's potentially significant impacts to water quality associated with operation period site runoff would be **less than significant**.

Impact HYDRO-3: Substantial Erosion or Siltation through Alteration of Drainage Patterns

The project would moderately alter site drainage patterns by conducting grading operations to level the development portion of the site and by directing runoff that currently flows north toward Rockaway Creek to the south toward the Fassler Avenue storm drain system.

Measures to protect Rockaway Creek and the Fassler Avenue storm drainage system from the effects of erosion and siltation during the construction phase are discussed under Impact HYDRO-1 above. Existing NPDES regulations address potential water quality impacts related to grading and exposing soils to erosion. Erosion or siltation caused by project operational phase activities, including hydromodification, is discussed under Impact HYDRO-2. Existing NPDES regulations address potential water quality impacts related to changing stormwater discharge rates and introducing new sources of pollutants such as sediment; metals; organic compounds such as pesticides, polynuclear aromatic hydrocarbons, and oil and grease; pathogens; nutrients; and trash and debris.

The relatively modest alteration of drainage patterns would not cause substantial erosion or siltation and is **less than significant**.

Impact HYDRO-4: Flooding by Altering Drainage Patterns or Generating Runoff that Exceeds the Capacity of the Stormwater Drainage System

As discussed above under Impact HYDRO-2, the project would construct water quality and detention basins that would be designed to treat runoff and control flows so that they do not exceed existing conditions flows. In the preliminary design, the detention basin was sized to reduce the 100-year, 24-hour storm event peak flow (under proposed project conditions) to less than the existing 100-year, 24-hour storm event peak flow.

In Pacifica's Municipal Code, Title 7, Chapter 5, Article 2, Section 7-5.201, Subsection (d), the "base flood" is defined as a 100-year event. Section 7-5.403 in the same chapter requires alterations to watercourses to maintain the flood-carrying capacity. While Chapter 5 particularly applies to floodplain management, its use of the 100-year event establishes this level of protection as a reasonable standard. Based on that, the City Engineer requires drainage designs to use the 100-year intensity-duration-frequency curve for developing peak flow capacities for storm drain facilities, and the 100-year, 24-hour storm is the default design event.²⁵

²⁵ Panza, Lee, 2016. Associate Civil Engineer, City of Pacifica, email communication with Bruce Abelli-Amen of BASELINE, February 2.

Since the project drainage would be designed and constructed in accordance with City drainage standards, the potential for the project to cause flooding by altering site drainage patterns or discharging runoff that could exceed the capacity of the City's stormwater drainage system is **less than significant**.

CUMULATIVE IMPACTS

Cumulative Significance Criteria

For purposes of this SEIR, the proposed project would have a significant cumulative effect if:

- the cumulative effects of related projects (past, current, and probable future projects) are not significant and the incremental impact of implementing the proposed project is substantial enough, when added to the cumulative effects of related projects, to result in a new cumulatively significant impact; or
- the cumulative effects of related projects (past, current, and probable future projects) are already significant and implementation of the proposed project makes a considerable contribution to the effect.

The standards used herein to determine considerability are that either the impact must be substantial or must exceed an established threshold of significance.

Cumulative Analysis

This section addresses the incremental effects of the proposed project in connection to the effects of other closely related past, present, and reasonably foreseeable probable future projects. The geographic area for the cumulative impacts analysis is the Calera Creek watershed (specifically the Rockaway Creek portion of the watershed). The effect of the incremental contribution of the proposed project on cumulative water quality impacts is discussed below.

Construction phase cumulative water quality impacts to Rockaway Creek would be less than significant. This is because cumulative projects that would disturb one or more acre of land would, by law, be subject to the BMP and risk level requirements in the Construction General Permit. Project applicants must prepare and implement a SWPPP according to the project risk level, which is designed to reduce potential adverse impacts to surface water quality through the project construction period.

Cumulative operational impacts associated with stormwater runoff and non-stormwater discharges in the watershed would also be less than significant. In accordance with the MRP and the San Mateo Countywide Water Pollution Prevention Program, any development project in the watershed creating or replacing more than 5,000 square feet of impervious area must, by law, incorporate site design, source control and stormwater treatment measures into the project to minimize the discharge of pollutants in stormwater runoff and non-stormwater discharges, and to

prevent increases in runoff flows. Any project adding or replacing one or more acres of impervious area in the watershed must incorporate hydromodification management controls to maintain pre-project conditions.

In addition, because the proposed project would implement mitigation measures to ensure compliance with the water quality objectives in the Basin Plan, the master water quality control planning document that addresses cumulative water quality impacts in the region, the incremental contribution the proposed project would not be cumulatively considerable. For the construction period, compliance with the Construction General Permit and preparation of a SWPPP would ensure compliance with the Basin Plan, as the Construction General Permit requires that stormwater discharges must not contain pollutants that cause or contribute to an exceedance of any applicable water quality objective contained in the Basin Plan. Similarly, the MRP states that it is an essential mechanism for achieving water quality objectives necessary for protecting beneficial uses as established in the Basin Plan; therefore, compliance with Provision C.3 in the MRP ensures compliance with the Basin Plan for the project operational phase.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts on hydrology and water quality would be *less than significant*.

V. ENVIRONMENTAL IMPACT ANALYSIS

F. TRANSPORTATION AND TRAFFIC

INTRODUCTION

The information and analysis in this section is based on the following traffic report prepared for the proposed project, which is included in Appendix G of this Draft SEIR:

- Fehr & Peers, Peer Review for the Proposed Residential Project at 801 Fassler Avenue in Pacifica, California, November 19, 2015.

Fehr & Peers conducted a peer review of two traffic studies previously prepared for the proposed residential development at 801 Fassler Avenue in Pacifica, CA. The original traffic study was completed in 2006 for a 34-unit residential development for which a reduced 29-unit version was approved but never built. An update of the 2006 study was then conducted in June 2014 for the current 24-unit proposal and a peer review of the 2014 study was conducted in November 2015.

Analysis Locations and Methods

The operational performance of a roadway network is commonly described with the term level of service (LOS). LOS is a qualitative description of operating conditions, ranging from LOS A (free-flow traffic conditions with little or no delay) to LOS F (oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays.) LOS E corresponds to operations “at capacity.” When volumes exceed capacity, stop-and-go conditions result and operations are designated as LOS F.

The following intersections in the immediate vicinity of the site are evaluated for the weekday morning (7:00-9:00 AM) and evening (4:00-6:00 PM) scenarios:

- SR-1 / Reina Del Mar Avenue
- SR-1 / Rockaway Beach Avenue / Fassler Avenue
- Fassler Avenue / Project Driveway (Plus Project scenarios only)

These intersections have been identified as those most likely to be affected by the proposed project.

Signalized Intersections

Traffic operations at signalized intersections are evaluated using the LOS method described in Chapter 16 of the Highway Capacity Manual (HCM). A signalized intersection’s LOS is based on the weighted average control delay measured in seconds per vehicle and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration. Table V.F-1 summarizes the relationship between the control delay and LOS for signalized intersections.

**Table V.F-1
Signalized Intersection LOS Criteria**

Level of Service	Signalized Intersection	Average Control Delay (sec/veh)
A	Operations with very low delay occurring with favorable traffic signal progression and/or short cycle lengths.	< 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 – 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 – 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 – 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	> 55.0 – 80.0
F	Operations with delay unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0

Source: Highway Capacity Manual, Transportation Research Board, 2000.

Unsignalized Intersections

Traffic conditions at unsignalized intersections are evaluated using the method from Chapter 17 of the HCM. With this method, operations are defined by the average control delay per vehicle (measured in seconds) for each movement that must yield the right-of-way. For all-way stop-controlled intersections, the average control delay is calculated for the intersection as a whole. At two-way or side street-controlled intersections, the control delay (and LOS) is calculated for each controlled movement, the left turn movement from the major street, and the entire intersection. Table V.F-2 summarizes the relationship between delay and LOS for unsignalized intersections.

**Table V.F-2
Unsignalized Intersection Level of Service Definitions**

Level of Service	Unsignalized Intersection	Average Control Delay (sec/veh)
A	Little or no delays	< 10.0
B	Short traffic delays	> 10.0 – 15.0
C	Average traffic delays	> 15.0 – 25.0
D	Long traffic delays	>25.0 – 35.0
E	Very long traffic delays	> 35.0 – 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

Source: Highway Capacity Manual, Transportation Research Board, 2000.

ENVIRONMENTAL SETTING

Vehicle Operations

Existing peak hour vehicle turning movement, bicycle, and pedestrian volume counts were collected from 7:00 to 9:00 AM and from 4:00 to 6:00 PM on Tuesday, June 2, 2015. Table V.F-3 compares these counts to those collected in October 2006 used for both previous traffic studies. The AM peak hour shows that the number of vehicles entering the intersection decreased by ten percent at Reina Del Mar Avenue and seventeen percent at Fassler Avenue, though the reported volumes at the Fassler Avenue intersection in the 2006 study had been adjusted to account for the queuing.

The PM differences are within the typical day-to-day variation of intersection volumes, but the decrease in AM volumes is higher than typical variation, suggesting that volumes through these intersections have decreases since 2006. Traffic count data are available in Appendix G.

Additional data collection was also completed on two occasions in September 2015, including observations of the lane configurations, signal timings, intersection operations and vehicle queuing. Signal timing sheets were collected from Caltrans; both were last updated in July 2012, and each signal was observed to operate differently than the signal timing sheets showed, as explained on the following page. Existing vehicle queues were also observed at the study intersections to ensure that the Synchro models were properly calibrated.

**Table V.F-3
Traffic Count Comparison – 2006 and 2015**

Intersection	Time	Total Volume Entering Intersection		Difference
		2006 ¹	2015 ²	
SR-1 / Reina Del Mar Avenue	AM	4,521	4,050	-10%
	PM	4,627	4,366	-6%
SR-1 / Rockaway Beach Avenue / Fassler Avenue	AM	4,168	3,461	-17%
	PM	4,557	4,122	-10%
<p>Notes:</p> <ol style="list-style-type: none"> From "The Prospects Residential Project Draft Environmental Impact Report," 2006. From data collected on Tuesday, June 2, 2015. <p>Source: Fehr & Peers, October 2015.</p>				

Traffic operations throughout the study area are analyzed using the Synchro 8.0 software program. Synchro calculations are based on the procedures outlined in the HCM. Table V.F-4 shows the LOS results for the existing weekday AM and PM peak hours. The levels of service reported are consistent with the SR-1 Calera Parkway Project Final Traffic Operations Report (July 2008).

**Table V.F-4
Existing Conditions Intersection Operations Summary**

Intersection	Control ¹	Peak Hour	Delay LOS	
			Delay ²	LOS ²
SR-1 / Reina Del Mar Avenue	Signal	AM	126	F
		PM	132	F
SR-1 / Rockaway Beach Avenue / Fassler Avenue	Signal	AM	217	F
		PM	121	F
<p>Notes: <i>Bold indicates unacceptable intersection operations.</i></p> <ol style="list-style-type: none"> Signal = signalized intersection. Traffic operations results include LOS (level of service) and delay (seconds per vehicle) LOS is based on delay thresholds published in the Highway Capacity Manual (Transportation Research Board, 2000.) <p>Source: Fehr & Peers, October 2015.</p>				

AM Peak Hours Observations

In the AM peak hour, long queues were observed on northbound SR-1 stemming back from the Reina Del Mar Avenue intersection. These queues reached as far back as Crespi Avenue (approximately 1.3 miles) throughout the AM peak hour. Because the queue length did not change over the peak hour, counts reflect demand volumes during the peak hour. Queues were also observed for the westbound right-turn movements from Fassler Avenue (back to Roberts Road) and Reina Del Mar (back to Vallemar Elementary School) onto SR-1. These queues did not clear each cycle; instead, vehicles needed two to three cycles to access SR-1. As a result of the westbound queuing on Fassler Avenue, vehicles were observed to use Sea Bowl Lane to access SR-1 northbound from Fassler Avenue.

With respect to the operation of the traffic signals, signal split phase times were longer for the westbound movement than conveyed on the obtained signal timing sheets from Caltrans and have been incorporated into the operations analysis model. At the SR-1 / Reina Del Mar intersection, the signal timing sheet showed northbound through phases as long as four minutes, which were corroborated by field observations. When the northbound left-turn phase, westbound phase, and the pedestrian phase for the eastbound approach are all actuated, as many as 85 seconds are dedicated to those phases while no northbound traffic can get through the intersection. This time creates the long queues that can extend past the Fassler Avenue intersection. North of Reina Del Mar, SR-1 transitions to a freeway and operates at free flow conditions.

At Fassler Avenue, vehicles in the westbound right-turn lanes do not call the westbound phase. Instead, the detectors for these lanes call the southbound left-turn phase, with which the westbound right-turn movement overlaps. As mentioned, the queue from Reina Del Mar was also observed to extend back through the intersection through both the westbound right-turn phase and the northbound through phase, leaving significant green time during the peak during which no vehicles can advance through the intersection. Additionally, the northbound queue (and the constant stream of northbound traffic) does not allow for right turns on red; as a result, this option has been removed from the Synchro model. Lastly, the Synchro model does not account for the queue spillback from the upstream intersection. As a result, the capacity of the northbound through movement has been modified to reflect the existing count, in order to more accurately reflect the observed conditions.

PM Peak Hour Observations

In the PM peak hour, long queues were observed on southbound SR-1 stemming back from both the Fassler Avenue and Reina Del Mar signalized intersections. This queue was observed at both the beginning and end of the peak hour, and grew from just north of Westport Drive to near the Sharp Park Road overcrossing (approximately one-third of a mile). Because the queue grows over the course of the PM peak hour and the counts capture only those vehicles that pass through the intersection, the counts are lower than the demand volumes during the peak

hour; given the amount of growth in the queue, the demand volumes for the southbound approach at Reina Del Mar Avenue are likely 100 to 150 vehicles more than the counts show.

Given the long green times at the Reina Del Mar intersection, the queue is typically a moving queue, with speeds between 10 and 25 miles per hour. The grade and horizontal curve approaching the intersection, as well as the speed limit change south of Mori Point Road, contribute to the queuing.

On several occasions, the queue from the Fassler Avenue intersection extended back through the Reina Del Mar intersection; despite southbound vehicles having allotted green time in this scenario, those vehicles were unable to proceed through the intersection along the SR-1 corridor. The southbound left-turn pocket from SR-1 to Reina Del Mar was also observed to extend to the end of its storage length on multiple occasions, though it did not affect the southbound through movement. The southbound left-turn pocket from SR-1 to Fassler Avenue was typically able to contain its queues during the PM peak hour. This location has two left-turn lanes and demand for this turn movement was likely metered by the upstream queuing.

With respect to the operation of the traffic signals, signal split phase times were longer for the westbound movement than conveyed on the obtained signal timing sheets from Caltrans and have been incorporated into the operations analysis model. The signal timing sheet showed southbound through phases as long as three minutes, which were corroborated by field observations. However, during the same southbound phase, the northbound through phase and southbound left-turn phase would alternate several times through a single cycle. This has been incorporated into the operations analysis model. The capacity of the southbound through movement has been modified to reflect the existing count, in order to more accurately reflect the observed conditions.

At Fassler Avenue, the southbound left-turn phase occurs both before the northbound through phase and after, similar to the phasing at Reina Del Mar. The changes to the signal phasing for the westbound movements mentioned for the AM peak hour were also made to the PM peak hour models, but right turns on red from Fassler Avenue to northbound SR-1 were observed and are included in the operations model.

As mentioned, the queue from this signal was observed to occasionally extend back through the Reina Del Mar intersection. The grade and curve south of Fassler Avenue near the Sea Bowl tend to make southbound drivers slow down after clearing this intersection, contributing to the queuing. The capacity of the northbound through movement has been modified to reflect the existing count, in order to more accurately reflect the observed conditions.

Existing Pedestrian, Bicycle, and Transit Facilities

In the vicinity of the project site, there is a sidewalk on the south side of Fassler Avenue, typically four- to five-feet wide, which extends between Roberts Road and the end of Fassler Avenue to the east. A sidewalk continues on the north side of Fassler Avenue from Roberts Road to SR-1. There is no crossing treatment to aid pedestrians crossing from one side of Fassler Avenue to the other. At the study intersections, crosswalks are provided across the

east and south legs of the SR-1 / Fassler Avenue / Rockaway Beach Avenue intersection, as well as the east, west, and south legs of the SR-1 / Reina Del Mar intersection. Pedestrian clearance times at both intersections correspond to a walking speed of approximately four feet per second.

Currently, there is a Class I path (separated pedestrian/bicycle path) on the west side of SR-1 between Reina Del Mar to the north and Linda Mar Boulevard to the south. The path becomes a Class III (bicycle route with sharrows) facility between San Marlo Way and Old County Road along Dondee Street and Nick Gust Way. Nearer to the project, there are no designated bicycle facilities along Fassler Avenue. It should be noted that Fassler Avenue has a significant grade that may discourage biking, particularly eastbound. No bicyclists were observed or counted on Fassler Avenue during field observations and data collection.

The project site is approximately one-half mile from the nearest transit stop, located at SR-1 and Fassler Avenue / Rockaway Beach Avenue. Currently, SamTrans Routes 16, 19, 49, 110, 112, and 118 utilize these stops. Stops for these routes are also provided at the SR-1 / Reina Del Mar intersection.

REGULATORY SETTING

Federal

There are no federal regulations governing transportation and traffic that are applicable to the proposed project.

State

California Department of Transportation (Caltrans)

The California Department of Transportation (Caltrans) is responsible for planning, designing, constructing, and maintaining all State highways. Caltrans has guidelines for traffic operations on State Highway facilities. Caltrans recommends a target LOS at the threshold between LOS C and LOS D. If the location under existing conditions operates worse than the appropriate target LOS, then the existing LOS should be maintained. Through its Bicycle Transportation Account, Caltrans sets the requirements for the content of bicycle master plan and requires an adopted plan to be eligible for state bicycle funding.

Plan Bay Area

The MTC, BAAQMD, Association of Bay Area Governments (ABAG), and Bay Conservation and Development Commission (BCDC) adopted "Plan Bay Area" in July 2013. Plan Bay Area is a long-range land-use/housing plan and transportation plan and demographic and economic forecast for the nine-county region, and coordinates land use and transportation in order to reduce greenhouse gases emissions for cars and light-duty trucks the region through the year 2040.

Local

Level of Service (LOS) is a measure of the degree of vehicle congestion that occurs during peak travel periods and is the traditional measure of roadway and intersection performance. Level of Service can range from “A” representing free-flow conditions, to “F” representing extremely long delays. LOS B and C signify stable conditions with acceptable delays. LOS D is typically considered acceptable for a peak hour in urban areas. LOS E is approaching capacity and LOS F represents conditions at or above capacity.

C/CAG Level of Service

The City/County Association of Governments (C/CAG) of San Mateo County regularly releases a Congestion Management Program (CMP) which identifies and monitors congestion and LOS at certain intersections and roadway segments. The most recent CMP is from 2015. The intersections and roadway segments in the CMP are generally operating at high congestion levels, and special significance criteria have been adopted to ensure conditions do not deteriorate.

Three roadway segments partly in Pacifica—SR 1 from the San Francisco County line to Linda Mar Boulevard; SR 1 from Linda Mar Boulevard to Frenchmans Creek Road; and SR 35 from the San Francisco County line to Sneath Lane—are identified in the 2015 Congestion Management Program as having a LOS threshold of E for each of the roadway segments partly within the City of Pacifica’s Planning Area. The 2015 CMP roadway system does not include any designated intersections in the City of Pacifica. The CMP calls for local agencies to evaluate the impacts of land use decisions – for individual large developments - upon regional transportation routes and air quality. Large developments are defined as those that generate a net of 100 or more peak period trips. A residential project with 100 or more single-family dwelling units would meet this threshold. As the project has significantly fewer than 100 units, an individual large development analysis per the CMP is not required.

Table V.F-5 from the San Mateo County Congestion Management Program describes C/CAG’s Level of Service descriptions for the types of roadways in the CMP that are partly within the City of Pacifica’s Planning Area.

City of Pacifica

As discussed above, the most critical congestion in the City occurs on SR 1 and SR 35, where certain intersections and roadway segments operate at an LOS of E or F during peak periods. The C/CAG CMP designates LOS E as the threshold for significance of acceptable traffic operations on these roadways in the City of Pacifica. The City designates LOS D as the threshold for significance for City streets not mentioned in the CMP, and focuses on limiting further deterioration of traffic conditions by evaluating the significance of impacts of new development on highway congestion and requiring mitigation.

**Table V.F-5
C/CAG Level of Service Description**

LOS	Freeways and Multilane Highways	Two-Lane Highways
A	Highest quality of service with free-flow conditions and a high level of maneuverability.	Free-flow conditions with a high level of maneuverability. Passing is easy to accomplish.
B	Free-flow conditions, but presence of other vehicles is noticeable. Minor disruptions easily absorbed.	Stable operations with passing demand approaching passing capacity.
C	Stable operations, but minor disruptions cause significant local congestion.	Stable operations, but with noticeable increase in passing difficulty.
D	Borders on unstable traffic flow with ability to maneuver severely restricted due to congestion.	Approaching unstable traffic flow. Passing demand is high while passing capacity approaches zero.
E	Unstable operations with conditions at or near capacity. Disruptions cannot be dissipated and cause bottlenecks to form.	Unstable operations. Passing is virtually impossible and platooning becomes intense.
F	Forced or breakdown flow with bottlenecks forming at locations where demand exceeds capacity. Speeds may drop to zero.	Heavily congested traffic flow with traffic demand exceeding capacity. Speeds may drop to zero.

Source: C/CAG San Mateo County Congestion Management Plan, 2015.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

The CEQA Guidelines includes provisions for significance criteria related to traffic and circulation impacts. In accordance with Appendix G of the CEQA Guidelines, the proposed project could have a significant environmental impact if it were to:

- a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths and mass transit;
- b) 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;
- c) 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;
- d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);

- e) Result in inadequate emergency access;
- f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

City of Pacifica Significance Criteria

The City of Pacifica currently uses a level of service standard of LOS D for all intersections. Both study intersections operate at LOS F under existing conditions; therefore, a project is said to have created a significant impact at a signalized intersection if the addition of project traffic causes both the critical movement delay at the intersection to increase by one or more seconds and the critical intersection volume-to-capacity (V/C) ratio to increase by more than 0.010. For unsignalized intersections, impacts occur if the worst stop-controlled approach would operate at LOS E or F with the project and the addition of project traffic causes the volumes to satisfy peak hour volume warrants for traffic signals provided by Caltrans. These are the same criteria used in the 2006 study.

Transportation and Traffic Issues not Further Analyzed

The following issues were addressed in the Initial Study (Appendix A) and Section V.A of the Draft SEIR and were determined to result in no impact or a less-than-significant impact and not warrant further analysis:

- Change in air traffic patterns

Project Impacts and Mitigation Measures

Project Vehicle Trip Generation, Distribution, Assignment

Trip Generation

Vehicle trip generation estimates for the proposed project during both AM and PM peak hours have been developed using the trip generation equations and rates presented in Institute of Transportation Engineers' (ITE) *Trip Generation, 9th Edition*. Due to the isolated, single-use nature of the proposed project, no reductions are made to account for internal trips, pass-by trips, or transit use. Additionally, as there are no current land uses at the project site, no reductions are made for the elimination of current land uses.

Table V.F-5 shows the vehicle trip generation estimates. The original 2006 EIR used the trip generation equations in *ITE Trip Generation, 7th Edition*, for the Single-Family Detached Housing Category (Land Use 210). The 2014 traffic study update used average rates instead of the equations, which resulted in fewer trips on a per-unit basis.

The City recommends using the equations for the Single-Family Detached Housing Category (Land Use 220) in *ITE Trip Generation, 9th Edition*. Though many of the units have attached walls, the development will operate as 24 single-family homes. The proposed development would generate approximately 283 daily trips, 27 AM peak hour trips and 29 PM peak hour trips.

For comparison purposes only, the previous estimates of trip generation from the 2006 EIR and the 2014 update are also provided.

**Table V.F-5
Project Vehicle Trip Generation**

Land Use	ITE Code	Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
2015 Project	210¹	24 dwelling units	283	7	20	27	18	11	29
2006 Analysis	210 ²	34 dwelling units	n/a	8	25	33	26	15	41
2014 Update	210 ³	24 dwelling units	228	5	13	18	15	9	24

Notes:

1. ITE trip generation average rates used (ITE Code 210 – Single Family Detached Housing, 9th Edition):

Daily: $LN(T) = 0.92 * LN(X) + 2.72$

AM: $T = 0.70 * X + 9.74$; Enter = 25%, Exit = 75%

PM: $T = 0.90 * LN(X) + 0.51$; Enter = 63%, Exit = 37%

Where X = total dwelling units, T = number of vehicle trips

2. ITE trip generation average rates used (ITE Code 210 – Single-Family Detached Housing, 7th Edition):

Daily: $LN(T) = 0.92 * LN(X) + 2.71$

AM: $T = 0.70 * X + 9.74$; Enter = 25%, Exit = 75%

PM: $T = 0.90 * LN(X) + 0.53$; Enter = 63%, Exit = 37%

Where X = total dwelling units, T = number of vehicle trips

3. ITE trip generation average rates used (ITE Code 210 – Single-Family Detached Housing, 9th Edition):

Daily: $T = 9.52 * X$

AM: $T = 0.75 * X$; Enter = 25%, Exit = 75%

PM: $T = 1.00 * X$; Enter = 63%, Exit = 37%

Where X = total dwelling units, T = number of vehicle trips

Source: Trip Generation Manual (7th Edition), ITE, 2003; Trip Generation Manual (9th Edition), ITE, 2012.

Trip Distribution and Assignment

Trip distribution refers to the directions of approach and departure that vehicles would use to arrive at and depart from the site. This traffic analysis assumes that all new project trips would be distributed proportionately based on an assessment of the current movements at the existing SR-1 intersections with Fassler Avenue and Reina Del Mar, as well as vehicles that use the Sea Bowl Lane cut-through to avoid queues. The movements to/from Fassler Avenue serve to inform the potential trip distribution for the project because Fassler Avenue primarily provides access between SR-1 and residential neighborhoods.

Existing Plus Project Traffic Operations

Existing Plus Project traffic operations throughout the study area are analyzed using the existing peak hour Synchro models and applying the project trip assignment discussed in the previous

sections. Table V.F-6 shows the LOS results for both scenarios; the additional traffic due to the project would have a negligible effect on the study intersections. The delay for the critical westbound right turn movement from Fassler Avenue to SR-1 would increase by 13 seconds per vehicle, though the critical intersection vehicle-to-capacity ratio would increase by only 0.007 during the AM peak hour. The Synchro worksheets used to complete this analysis are provided in Appendix G.

**Table V.F-6
Existing Plus Project Conditions Intersection Operations**

Intersection	Control ¹	Peak Hour	Existing Conditions		Existing Plus Project	
			Delay ²	LOS ²	Delay ²	LOS ²
SR-1 / Reina Del Mar Avenue	Signal	AM	126	F	128	F
		PM	132	F	135	F
SR-1 / Rockaway Beach Avenue / Fassler Avenue	Signal	AM	217	F	220	F
		PM	121	F	121	F
Fassler Avenue / Proposed Access Driveway	SSSC ³	AM	n/a	n/a	1 (24)	A (C)
		PM	n/a	n/a	1 (12)	A (B)

Notes: Bold indicates unacceptable intersection operations.

1. Signal = signalized intersection; SSSC = side-street stop controlled intersection.

2. Traffic operations results include LOS (level of service) and delay (seconds per vehicle). LOS is based on delay thresholds published in the Highway Capacity Manual (Transportation Research Board, 2000).

3. Delay is reported as: Average delay for intersection (Average delay for project driveway).

Source: Fehr & Peers, October 2015.

Impact TRAFFIC-1 Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths and mass transit

Impact TRAFFIC-1a Construction Traffic Impacts

During the grading and construction phases, construction traffic, primarily trucks and construction employee vehicles, would enter and exit the project site. All construction-worker parking and staging of construction equipment would occur on the project site. Although truck and automobile traffic associated with the proposed project's construction period would add to the existing traffic volumes along Fassler Avenue, construction-related traffic would be less than the project trip generation at the time the site is operational. The project would require the importing of 10,100 cy of material. As discussed in Section IV (Project Description), this would result in approximately 9-17 trucks per day off-hauling material from the project site depending the size of the truck (i.e., approximately 17 one-way truck trips per day for a 10-cy truck and

approximately 9 one-way truck trips per day for a 20-cy truck). This minimal amount of truck trips would be a relatively minor increase to existing conditions. Furthermore, these truck trips would be dispersed throughout the day, thereby reducing their potential impact on local roads. The source of the fill soil to be trucked to the project site is not known at this time but the haul trucks are assumed to use State Highway 1 and Fassler Avenue to reach the project site. As discussed below, operational trips would not significantly increase traffic as compared to existing conditions. Construction traffic would therefore also be a less than significant increase. Moreover, any construction-traffic impacts would be temporary and short-term in nature, and would not affect the overall level of service experienced along these roadways. Given that the project would have a minimal amount of truck trips associated with the construction period, it would not negatively affect any applicable plan, ordinance or policy. Therefore, impacts would be **less than significant** and no mitigation measures are required.

Impact TRAFFIC-1b Existing Plus Project Intersection Operation Impacts

As shown in Appendix G-1, the delay for the critical westbound right turn movement from Fassler Avenue to SR-1 would increase by 13 seconds per vehicle, though the critical intersection vehicle-to-capacity ratio would increase by only 0.007 during the AM peak hour. Given that the project would have a volume-to-capacity (V/C) ratio increase of less than 0.010, it would not negatively affect any applicable plan, ordinance or policy. Therefore, project impacts to study intersections would be **less than significant** and no mitigation measures are required.

Impact TRAFFIC-2 Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways

A significant impact may occur if the adopted California Department of Transportation (Caltrans) and San Mateo County Congestion Management Agency (CMA) thresholds for a significant project impact would be exceeded. To address the increasing public concern that traffic congestion is impacting the quality of life and economic vitality of the State of California, the CMP was enacted by Proposition 111. The CMP designated a transportation network including all State highways and some arterials within the County to be monitored by local jurisdictions. If the LOS standard deteriorates on the CMP network, then local jurisdictions must prepare a deficiency plan to be in conformance with the CMP program.

The project does not an impact analysis as specified in the San Mateo C/CAG CMP, as it does not meet the criteria for an individual large development analysis. The additional traffic due to the project would not trigger the City of Pacifica's LOS threshold for a significant impact.

The Draft San Mateo Countywide Transportation Plan, prepared by the City/County Association of Governments of San Mateo and scheduled for adoption in late 2016 or early 2017, includes the Calera Parkway project in Pacifica in the proposed RTP Project List (Appendix B). The Calera Parkway project, which is also identified in the Pacifica General Plan Public Review Draft, would widen SR 1 from four to six lanes from south of Fassler Avenue to north of Reina Del Mar Avenue, a distance of 1.3 miles. According to the Pacifica General Plan Public Review

Draft document, the Calera Parkway project would be funded from Measure A. It would improve traffic conditions at both the SR-1 / Fassler Avenue / Rockaway Beach Avenue intersection and the SR-1 / Reina Del Mar Avenue intersection. Therefore, impacts would be **less than significant** to an applicable congestion management program.

Impact TRAFFIC-3 Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)

Impact TRAFFIC-3a Sight Distance

The project site plan has been reviewed with consideration for safe and efficient circulation of motor vehicles, bicyclists, and pedestrians through the project site and on the roadways adjacent to the project site. The site plan that was reviewed for this analysis is dated March 11, 2015 (Figure IV-2). The review focuses on:

- Existing pedestrian, bicycle, and transit facilities
- Vehicle access and circulation, including parking layout within the site
- Emergency vehicle access to the site
- Pedestrian access and circulation within and adjacent to the site
- Bicycle access and circulation within and adjacent to the site, as well as bicycle parking
- Vehicle sight distance to and from the proposed driveway
- Accommodation of the driveway for the Harmony @ 1 project across Fassler Avenue
- Viability of and need for a westbound right-turn lane into the project

As previously noted, access for the project would be provided from a new driveway on the north side of Fassler Avenue. The driveway would be located approximately 60 feet to the east of a proposed right-in, right-out driveway on the south side of Fassler Avenue for the 13-unit Harmony @ 1 residential development, which is under construction.

Fassler Avenue is signed with a 35 mile per hour speed limit, though observations suggested that the prevailing speed westbound on Fassler Avenue is higher. Though somewhat winding, Fassler Avenue has a downhill grade toward SR-1, a likely key factor contributing to the higher than posted vehicle speeds on westbound Fassler Avenue. Eastbound vehicle speeds were not observed to be significantly different than the posted speed. No on-street parking is currently provided on Fassler Avenue, and none is proposed as part of the project.

The stopping sight distance (SSD) is the distance required for vehicles on the major roadway to stop safely should there be an interruption in the roadway. The major roadway has a constant grade and no horizontal curvature in the immediate vicinity of the project driveway, providing significant sight distance approaching the intersection. Because of the excess SSD, a westbound right-turn pocket on Fassler Avenue allowing vehicles to turn into the project is not necessary.

Intersection sight distance (ISD), also known as corner sight distance (CSD), is the sight distance required for the vehicle stopped on the minor roadway to see approaching vehicles on the major roadway and have time to make the decision to enter the intersection without interrupting flow. Section 205.2 of the Caltrans Highway Design Manual¹ describes the requirements for private road connections. Figure 405.7 and Section 405.1 (2) (c) of the Caltrans Highway Design Manual, as well as Index 205.2 and Index 205.4, which dictates that the minimum CSD shall be equal to the SSD as given in Table 201.1 in the Design Manual, measured from at least fifteen feet from the edge of the travel way.

Section 205.3 of the Caltrans Highway Design Manual describes the requirements for urban driveways such as the planned project access onto Fassler Avenue. It references sections 405.1 and 201.3, which provide the requirements for sight distance from a driveway. CSD is not required from an urban driveway, leaving SSD distance as the minimum standard. The required stopping sight distance from the driveway for a 35 mile per hour road would be 250 feet.

Section 201.3 also warns that “the stopping sight distances in Table 201.1 should be increased by 20 percent on sustained downgrades steeper than 3 percent and longer than one mile.” Though not longer than one mile, the required stopping sight distance when the downgrade is accounted for is 300 feet. Based on field measurements, there is approximately 700 feet of sight distance from the proposed driveway looking to the west (downhill). Looking to the east from the driveway (uphill), with the fifteen-foot setback from the edge of the travel way, there is approximately only 60 feet of sight distance. The sight distance to the east is blocked by a tree and a hill, as shown in the photograph on the following page. Drivers making a left or right turn out of the project driveway would have to pull out into the travel way in order to gain the necessary sight distance. The tree and potentially part of the hillside may need to be removed in order to provide adequate sight distance. Additionally, the proposed re-striping illustrated in Figure IV-9 allows for two 18-foot travel lanes and a 12-foot left-turn lane into the project. The re-striping could be done to provide a shoulder on the north side of Fassler Avenue, which would allow right turning vehicles exiting the project to pull out into the roadway without conflicting with eastbound downhill vehicles and gain adequate sight distance. Narrowing of the 18-foot travel lanes to 12 feet may also provide bicycles with a safer riding area along Fassler Avenue. For vehicles turning left to exit the project, removal of the tree and a portion of the hillside would be required to provide adequate sight distance.

¹ California Department of Transportation (Caltrans) 2016. *Caltrans Highway Design Manual*



Intersection sight distance at the project site looking to the east along Fassler Avenue.

The proposed driveway appears to have larger-than-necessary curb radii given the low speed desired for vehicles entering and exiting the project. It is unclear from the site plan if the access point is provided via a standard driveway apron or an intersection design with raised curbs. A standard driveway apron should be provided, as the apron design would create lower vehicle speeds entering and exiting the driveway and a more pleasant pedestrian experience by preserving the sidewalk grade across the driveway. Project access and circulation impacts are considered to be significant but can be reduced to a **less-than-significant** level via implementation of Mitigation Measure TRAFFIC-1a. The potential secondary impacts of implementing Mitigation Measure TRAFFIC-1a are discussed in Sections V.B (Aesthetics), V.C (Biological Resources), and V.D (Geology and Soils).

Mitigation Measure TRAFFIC-1a

The project shall provide adequate sight distance, as designated by the Caltrans Highway Design Manual, to/from westbound Fassler Avenue at the project driveway. This can be accomplished by removing the tree, cutting back a portion of the hill to the east of the project driveway, and re-striping Fassler Avenue to provide a shoulder. These sight distance measures shall be implemented prior to the initiation of any on-site construction activities so that adequate sight distance is provided for construction vehicles exiting the project site. The project shall also decrease the curb radii and/or

include a standard driveway apron at the driveway to slow vehicles entering and exiting the project site. The grade of the sidewalk shall remain constant across the driveway.

Impact TRAFFIC-3b Ingress and Egress

As mentioned, the proposed re-striping of Fassler Avenue would provide a 120-foot left-turn pocket in the eastbound (uphill) direction into the project site. As a result of this new twelve-foot lane, Fassler Avenue would have one eighteen-foot lane in each direction near the proposed driveway. These wide lanes would provide an area for bicyclists but could also encourage parking which could adversely affect access and circulation. Therefore, impacts would be potentially significant but can be mitigated to a **less-than-significant** level via implementation of Mitigation Measure TRAFFIC-1b.

Mitigation Measure TRAFFIC-1b

Parking shall be prohibited along both sides of Fassler. Signage and red curb paint shall be used to prohibit parking in this area on both sides of the street. There is also a centerline stripe that is indicated to be white. Centerline striping shall be yellow throughout; the only white stripe shall be the stripe indicating the separation of the left-turn pocket from the eastbound travel lane. All improvements shall be consistent with the current edition of the Caltrans Highway Design Manual and signed and striped consistent with the current edition of the California Manual of Traffic Control Devices (MUTCD). The restriping of Fassler Avenue shall be implemented prior to the initiation of any on-site construction activities.

Impact TRAFFIC-3c Turning Conflict

Lastly, the Fassler Avenue driveway for the Harmony @ 1 development is about 60 feet to the west of the project driveway and would be a right-in, right-out (the development provides a second access point with no restrictions on Roberts Road), and no conflicts are anticipated between the two access points. The proposed project's left-turn pocket on Fassler Avenue may provide a location for vehicles exiting the Harmony @ 1 site to U-turn back toward SR-1, though the second access point should minimize the desire to make this movement. Additionally, the Harmony @ 1 project has only 13 residential units, indicating that the movement would not be performed often. These impacts are considered to be **less than significant** and no mitigation measures are required.

Impact TRAFFIC-4 Result in Inadequate Emergency Access

Factors such as number of access points, roadway width, and proximity to fire stations determine whether a project provides sufficient emergency access. The proposed project provides a point of entry on Fassler Avenue under the proposed plan (Figure IV-2). The *Pacifica, California Municipal Code* does not provide a minimum access drive width for emergency vehicles; California Fire Code Section 503 requires that access drives must have an

unobstructed width of at least 20-feet.² The drive aisle proposed as part of this project is 28-feet wide throughout. On-street parking spaces are eight-feet wide per the site plan, leaving at least 20 feet for emergency vehicles. The access point from Fassler Avenue also provides adequate access for emergency vehicles. Additionally, should an emergency vehicle need to remain on the internal drive aisle, each unit should have an alternative path to enter/exit the project site.

The fire station most likely to serve the site is located on Linda Mar Boulevard, approximately two miles from the site via SR-1, Crespi Drive/Roberts Road, or Sheila Lane/Crespi Drive. A second fire station within the City is located at on Edgemar Avenue, approximately three-and-a-half miles from the project site. Emergency vehicles would have several options to access the site and would not have to complete any U-turns to gain entry. Given these considerations, the project provides sufficient emergency access. Impacts would be **less than significant** and no mitigation measures are required.

Impact TRAFFIC-5 Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities

Impact TRAFFIC-5a On-Site Pedestrian Access and Circulation Impacts

While the project provides a pedestrian path connecting the area between Styles 4 and 5 to the open space to the west of the residential units, the site plan does not call out a continuous proposed sidewalk on the main roadway within the project site. City of Pacifica Administrative Policy 74, Complete Streets Policy, would require the applicant to install complete street considerations in the design of the project. Municipal Code Section 10-1.905 (c) states that sidewalks may be omitted from subdivision plans if recommended by the Planning Commission and approved by the Council. There appears to be five- to eight-foot spaces for pedestrians along the perimeter of the internal circulation roadway and five- to six-foot spaces along the roadway for the interior styles. This is considered a significant impact but it can be mitigated to a **less-than-significant** level via implementation of Mitigation Measure TRAFFIC-2.

Mitigation Measure TRAFFIC-2

The applicant shall revise the project plans to include a continuous sidewalk on the main roadway within the project site.

Impact TRAFFIC-5b Off-Site Pedestrian Access and Circulation Impacts

The site plan proposes a five foot sidewalk along the project frontage on Fassler Avenue. This is compliant with *Americans with Disabilities Act Standards for Accessible Design*, which requires four feet of clear distance. The sidewalk does not connect to another sidewalk. There

² California Building Standards Commission. California Fire Code 2013, California Code of Regulations Title 24, Part 9. Section 503 Fire Apparatus Access Roads

are existing sidewalks on the south side of Fassler Avenue, across from the project. The site plan does not propose a crosswalk to access that sidewalk. Pedestrians will not have a continuous pathway to access the transit stops at the SR-1 / Fassler Avenue / Rockaway Beach Avenue intersection. The proposed project would have to comply with City of Pacifica Administrative Policy 74, Complete Streets Policy. The project would not conflict with adopted policies, plans, or programs regarding pedestrian facilities. The project would not decrease the performance or safety of any existing or planned pedestrian facilities. This impact is considered to be **less than significant** and no mitigation measures are required.

CUMULATIVE IMPACTS

Cumulative Significance Criteria

For purposes of this SEIR, the proposed project would have a significant cumulative effect if:

- the cumulative effects of related projects (past, current, and probable future projects) are not significant and the incremental impact of implementing the proposed project is substantial enough, when added to the cumulative effects of related projects, to result in a new cumulatively significant impact; or
- the cumulative effects of related projects (past, current, and probable future projects) are already significant and implementation of the proposed project makes a considerable contribution to the effect.

The standards used herein to determine considerability are that either the impact must be substantial or must exceed an established threshold of significance.

Cumulative Analysis

The geographic scope for cumulative impacts related to transportation and traffic would include projects within Pacifica and beyond (Table III-1). The 2006 Draft EIR analyzes a Cumulative Conditions scenario that includes a one percent growth factor for ten years, plus a development project that would include 63 condominium units and 24,000 square feet of retail space. The EIR states that “[t]his one percent growth rate is typical for areas that are not completely built out, and is consistent with growth of jobs and households projected by the Association of Bay Area Governments (ABAG) for Pacifica in its latest publication of land use projections, Projections 2005.” The current ABAG land use projections, Projections 2013, indicate a similar growth rate³. Given that the 2015 volumes were lower than those collected in 2006 and that

³ Association of Bay Area Governments (ABAG). 2013. *Bay Area Plan Projects*

growth rates are approximately the same, the trip generation for the updated project description has been evaluated against the background growth forecasts previously developed for the 2006 impact analysis. These forecasts account for proposed developments nearby such as the Harmony @ 1 residential development across Fassler Avenue and other developments throughout the City of Pacifica, including the Holiday Inn Expansion on Nick Gust Way just west of the SR-1 / Fassler Avenue / Rockaway Beach Avenue intersection.

Table V.F-8 shows the Cumulative Conditions LOS results. These results reflect a scenario without the Calera Parkway Project, which would add a lane to SR-1 in each direction between Fassler Avenue and Reina Del Mar Avenue.

The project vehicle trip turning movements at the study intersections are added to the Cumulative No Project traffic volumes to obtain the Cumulative Plus Project traffic volumes. The Synchro models are used to evaluate the cumulative traffic forecasts (without and with project) and the resulting LOS is shown in Table V.F-9. As shown in Table V.F-9, the additional traffic due to the project would have a less-than-significant impact to the study intersections. The delay for the critical westbound right turn movement from Fassler Avenue to SR-1 would increase by 14 seconds per vehicle, though the critical intersection v/c ratio would increase by only 0.007 during the AM peak hour. The City of Pacific considers an impact to be significant if it has a V/C ratio of 0.010. Given that the Cumulative Plus Project traffic volumes V/C ratio is 0.007, there would not be a significant cumulative impact. Therefore, based on the threshold cited above, the project's contribution to cumulative impacts would not be cumulatively considerable as well.

Table V.F-8
Cumulative Conditions Intersection Operations

Intersection	Control ¹	Peak Hour	Cumulative Conditions No Project	
			Delay ²	LOS ²
SR-1 / Reina Del Mar Avenue	Signal	AM	179	F
		PM	187	F
SR-1 / Rockaway Beach Avenue / Fassler Avenue	Signal	AM	312	F
		PM	145	F

Notes: *Bold indicates unacceptable intersection operations.*

1. *Signal = signalized intersection.*

2. *Traffic operations results include LOS (level of service) and delay (seconds per vehicle). LOS is based on delay thresholds published in the Highway Capacity Manual (Transportation Research Board, 2000).*

Source: *Fehr & Peers, October 2015.*

**Table V.F-9
Cumulative Plus Project Intersection Operations**

Intersection	Control ¹	Peak Hour	Cumulative No Project		Cumulative Plus Project	
			Delay ²	LOS ²	Delay ²	LOS ²
SR-1 / Reina Del Mar Avenue	Signal	AM	179	F	181	F
		PM	187	F	189	F
SR-1 / Rockaway Beach Avenue / Fassler Avenue	Signal	AM	312	F	315	F
		PM	145	F	146	F
Fassler Avenue / Proposed Access Driveway	SSSC ³	AM	n/a	n/a	1 (29)	A (D)
		PM	n/a	n/a	1 (12)	A (B)

Notes: *Bold indicates unacceptable intersection operations.*

1. *Signal = signalized intersection; SSSC = side-street stop controlled intersection.*

2. *Traffic operations results include LOS (level of service) and delay (seconds per vehicle). LOS is based on delay thresholds published in the Highway Capacity Manual (Transportation Research Board, 2000).*

3. *Delay is reported as: Average delay for intersection (Average delay for Project driveway).*

Source: *Fehr & Peers, October 2015.*

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts on transportation and traffic would be ***less than significant*** after mitigation.

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V. ENVIRONMENTAL IMPACT ANALYSIS

G. NOISE

INTRODUCTION

Fundamentals of Sound and Environmental Noise

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

Noise is typically defined as unwanted sound. A typical noise environment consists of a base of steady ambient noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources, such as an occasional aircraft or train passing by to virtually continuous noise sources like traffic on a major highway. Table IV.G-1 below illustrates representative noise levels in the environment.

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

- L_{eq} – The equivalent energy noise level is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- L_{dn} – The equivalent noise level for a continuous 24-hour period with a 10-decibel penalty imposed during nighttime and morning hours (10:00 pm to 7:00 am).
- L_{min} – The minimum instantaneous noise level experienced during a given period of time.
- L_{max} – The maximum instantaneous noise level experienced during a given period of time.
- CNEL – The Community Noise Equivalent Level is a 24-hour average L_{eq} with a 10 dBA “penalty” added to noise during the hours of 10:00 P.M. to 7:00 A.M., and an additional 5 dBA penalty during the hours of 7:00 P.M. to 10:00 P.M. to account for noise sensitivity in the evening and nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.

**Table IV.G-1
Typical Noise Levels in the Environment**

Common Outdoor Noise Source	Noise Level (dBA)	Common Indoor Noise Source
	110 dBA	Rock band
Jet fly-over at 1,000 feet		
	100 dBA	
Gas lawn mower at 3 feet	90 dBA	
Diesel truck at 50 feet at 50 mph		Food blender
	80 dBA	Garbage disposal
Noisy urban area, daytime		
Gas lawn mower at 30 feet	70 dBA	Vacuum cleaner
Commercial area		Normal speech face to face
Heavy traffic at 300 feet	60 dBA	
		Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room
Quiet suburban nighttime		
	30 dBA	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20 dBA	
		Broadcast/recording studio
	10 dBA	
	0 dBA	
<i>Source: Technical Noise Supplement (TeNS), Caltrans, November 2009.</i>		

Noise environments and consequences of human activities are usually well represented by median noise levels during the day, night, or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60–70 dBA range, and high above 70 dBA. Noise levels greater than 85 dBA can cause temporary or permanent hearing loss. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet suburban residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate level noise environments are urban residential or semi-commercial areas (typically 55–60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with more noisy urban residential or residential-commercial areas (60–75 dBA) or dense urban or industrial areas (65–80 dBA).

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

Noise levels from a particular source decline as distance to the receptor increases. Other factors, such as the weather and reflecting or shielding, also help intensify or reduce the noise level at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically “hard” locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically “soft” locations (i.e., the area between the source and receptor is earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer homes is generally more than 30 dBA.

ENVIRONMENTAL SETTING

Nearby Sensitive Receptors

Sensitive receptors are populations that are more susceptible to the effects of noise and vibration than others, such as the elderly and children. Locations that may contain high concentrations of sensitive receptors include long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, child care centers, and libraries. The nearest and most notable sensitive receptor to the project site is the multi-family development located approximately 500 (\pm 20) feet to the east of the project site.

Existing Conditions

Ambient Daytime Noise Levels

Noise measurements taken for the City's General Plan Update show that existing ambient traffic noise levels along Fassler Avenue are approximately 50 to 60 dBA.

REGULATORY SETTING

Federal

There are no federal standards that are applicable to the proposed project.

State

The City of Pacifica and the State of California establish guidelines, regulations, and policies designed to limit noise exposure at noise sensitive land uses. These plans and policies include: (1) the State CEQA Guidelines, Appendix G; (2) the State of California Building Code, (3) the State Office of Noise Control, and (4) the City of Pacifica General Plan.

CEQA does not define what noise level increase would be considered substantial. Typically, project-generated noise level increases of 3 dBA L_{dn} or greater would be considered significant where exterior noise levels would exceed the normally acceptable noise level standard. Where noise levels would remain at or below the normally acceptable noise level standard with the project, noise level increases of 5 dBA L_{dn} or greater would be considered significant.

2010 California Building Code

The development of new dormitory, apartment and other multi-family housing types, other than detached single family dwellings are subject to the environmental noise limits set forth in the 2010 California Building Code (Chapter 12, Appendix Section 1207.11). The noise limit is a maximum interior noise level of 45 dBA L_{dn} /CNEL. Where exterior noise levels exceed 60 dBA L_{dn} /CNEL, a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the project to meet the noise limit.

Local

City of Pacifica General Plan

The City of Pacifica's General Plan does not contain quantifiable noise level limits that could be used in the evaluation of a project's compatibility with the noise environment where it is proposed. Exterior and interior noise level guidelines established by the State Office of Noise Control have been adopted by many communities for this purpose. Noise levels in outdoor activity areas of new residential developments are considered normally acceptable in noise environments of 60 dBA L_{dn} or less. The State Building Code regulates interior noise levels to be maintained at or below 45 dBA L_{dn} inside multi-family residences.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Based on the Appendix G of the State *CEQA Guidelines*, a project could have a significant noise impact if it would cause any of the following conditions to occur:

- a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airstrip, expose people residing or working in the project area to excessive noise levels; or
- f) For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

Noise Issues not Further Analyzed

The following issues were addressed in Section V.A of the Draft SEIR and were determined to result in no impact or a less-than-significant impact and not warrant further analysis:

- Exposure of Persons or Generation of Excessive Groundborne Vibration
- Substantial Permanent Increase in Ambient Noise Levels
- Exposure of Persons within Two Miles of a Public Airport to Excessive Noise Levels
- Exposure of Persons to Excessive Noise Levels from a Private Airstrip

Project Impacts and Mitigation Measures

Impact NOISE-1: Expose Persons to or Generate Noise Levels in Excess of Standards

Project development would require the use of heavy equipment for site grading and excavation, installation of utilities, paving, and building fabrication. Development activities would also involve the use of smaller power tools, generators, and other sources of noise. During each stage of development there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment in operation and the location of the activity. High noise levels would be generated intermittently when the site is cleared to make room for the

access road, driveways and residential units. The highest construction noise levels would be generated during the grading and paving of the access road and driveways, and lower noise levels occurring during home construction and finishing.

The U.S. EPA has compiled data regarding the noise generating characteristics of specific types of construction equipment and typical construction activities. The data is presented Tables V.G-2 and V.G-3. These noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 84 dBA measured at 50 feet from the noise source to the receptor would reduce to 78 dBA at 100 feet from the source to the receptor, and reduce by another 6 dBA to 72 dBA at 200 feet from the source to the receptor.

During construction, two basic types of activities would be expected to occur and generate noise. First, the development site would be prepared, excavated, and graded to accommodate building foundations. Second, the proposed residential uses would be constructed and readied for use. The nearest and most notable sensitive receptor to the project site is the multi-family development located approximately 500 (\pm 20) feet to the east of the proposed project site. Based on the information presented in Tables V.G-2 and V.G-3, noise levels during construction could be as high as 98 dBA on-site. Assuming an attenuation rate of 6 dBA for every doubling of distance, the nearest sensitive receptors would experience noise levels as high as 79-80 dBA when construction activities occur outdoors, if pile driving is not used.

**Table V.G-2
Noise Range of Typical Construction Equipment**

Construction Equipment	Noise Level in dBA L_{eq} at 50 Feet ^a
Front Loader	73-86
Trucks	82-95
Cranes (moveable)	75-88
Cranes (derrick)	86-89
Vibrator	68-82
Saws	72-82
Pneumatic Impact Equipment	83-88
Jackhammers	81-98
Pumps	68-72
Generators	71-83
Compressors	75-87
Concrete Mixers	75-88
Concrete Pumps	81-85
Back Hoe	73-95
Tractor	77-98
Scraper/Grader	80-93
Paver	85-88

Notes:

^a. Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of noise emissions as that shown in this table.

Source: United States Environmental Protection Agency, *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances*, PB 206717, 1971.

**Table V.G-3
Typical Outdoor Construction Noise Levels**

Construction Phase	Noise Levels at 50 Feet (dBA L _{eq})	Noise Levels at 50 Feet with Mufflers (dBA L _{eq})
Ground Clearing	84	82
Excavation, Grading	89	86
Foundations	78	77
Structural	85	83
Finishing	89	86

Source: United States Environmental Protection Agency, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971.

The State CEQA Guidelines do not define the levels at which a temporary increase in noise is considered considerable. In addition, the City of Pacifica has not adopted any thresholds for construction noise impacts. Therefore, this analysis uses the Federal Transit Administration's (FTA) construction noise impact criteria to determine if a significant impact would occur. These criteria are identified in Table V.G-4, FTA General Construction Noise Criteria. According to the FTA, there may be adverse community reaction if these criteria are exceeded.¹

**Table V.G-4
FTA General Construction Noise Criteria**

Land Use	One-Hour L _{eq} (dBA)		Eight-Hour L _{eq} (dBA)	
	Day	Night	Day	Night
Residential	90	80	80	70
Commercial	100	100	85	85
Industrial	100	100	90	90

Source: Harris Miller Miller & Hanson, Transit Noise and Vibration Impact Assessment, May 2006.

Based on the information presented above, construction noise levels could reach 79-80 dBA, given the approximation of distance, which is close or at the 80 dBA Leq eight-hour daytime threshold of significance listed in Table V.G-4. As shown in Table V.A-3, the use of mufflers on construction equipment could reduce their noise levels by an average of 2 dBA; however, not every piece of construction equipment includes mufflers and thus this 2 dBA decibel reduction would not apply to all construction equipment. Construction noise impacts to off-site residential uses would be potentially significant given it may trigger the 80 dBA Leq eight-hour daytime threshold of significance listed in Table V.A-4. It should be noted that the increase in noise levels at the nearest existing sensitive receptors during construction at the project site would be temporary in nature and would not generate continuously high noise levels, although occasional single-event disturbances from construction are possible. These impacts can be mitigated to a

¹ Harris Miller Miller & Hanson, Transit Noise and Vibration Impact Assessment, May 2006, pp. 12-7 and 12-8.

less-than-significant level via implementation of the following construction noise mitigation measure:

Mitigation Measure MM-IV.G-2: Expose Persons to or Generate Noise Levels in Excess of Standards

The following measures to reduce construction noise shall be implemented:

- Construction activities shall be limited to the hours of 7:00 a.m. to 7:00 p.m. Monday to Friday, and 9:00 a.m. to 5:00 p.m. Saturdays and Sundays. No heavy construction equipment (e.g., trucks, pavers, concrete mixers, etc.) use shall be permitted on Weekends or after 6:00 p.m. on weekdays. No construction activities shall be permitted on federal holidays as required by the City of Pacifica Municipal Code Section 8-1.06.
- All construction equipment shall be equipped with improved noise muffling, and have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine isolators in good working condition.
- Stationary construction equipment that generates noise levels in excess of 65 dBA Leq shall be located as far away from existing occupied buildings as possible. If required to minimize potential noise conflicts, the equipment shall be shielded from noise sensitive receptors by using temporary walls, sound curtains, or other similar devices.
- All equipment shall be turned off if not in use for more than five minutes.
- An information sign shall be posted at the entrance to each construction site that identifies the permitted construction hours and provides a telephone number to call and receive information about the construction project or to report complaints regarding excessive noise levels. The Applicant shall respond to all noise complaints within 24 hours and shall provide the City with a written summary of the complaint and the response within 48 hours of the complaint.
 - The contractor shall minimize use of vehicle backup alarms. A common approach to minimizing the use of backup alarms is to design the construction site with a circular flow pattern that minimizes backing up of trucks and other heavy equipment. Another approach to reducing the intrusion of backup alarms is to require all equipment on the site to be equipped with ambient sensitive alarms. With this type of alarm, the alarm sound is automatically adjusted based on the ambient noise.
 - Construction worker's radios shall be controlled so as to be inaudible beyond the limits of the project site boundaries.
 - Heavy equipment, such as paving and grading equipment, shall be stored on-site whenever possible to minimize the need for extra heavy truck trips on local streets.

- Equipment used for project construction shall be hydraulically or electrically powered impact tools (e.g., jack hammers) wherever possible to avoid noise associated with compressed air exhaust from pneumatically-powered tools. Where use of pneumatically-powered tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. A muffler could lower noise levels from the exhaust by up to about 10 dB(A). External jackets on the tools themselves shall be used where feasible; this could achieve a reduction of 5 dB(A). Quieter procedures shall be used (such as drilling rather than impact equipment) wherever feasible.

Impact NOISE-2: Substantial Temporary or Periodic Increase in Ambient Noise Levels

A significant impact may occur if the proposed project were to introduce substantial new sources of noise or substantially add to existing sources of noise within or in the vicinity of the proposed project site during construction of the proposed project or on a periodic basis during the operation of the proposed project.

It is widely accepted that in the community noise environment the average healthy ear can barely perceive Community Noise Equivalent Level (CNEL) noise level changes of 3 dBA (Caltrans, 1998; U.S. DOT, 1990). CNEL changes from 3 to 5 dBA may be noticed by some individuals who are extremely sensitive to changes in noise, whereas a 5 dBA CNEL increase is readily noticeable, while the human ear perceives a 10 dBA CNEL increase as a doubling of sound (Caltrans, 1998; U.S. DOT, 1990). For the purposes of this analysis, an increase in ambient noise levels of 5 dBA would be considered a significant impact.

Based on the information presented in Tables V.G-2 and V.G-3 above, noise levels during construction could be as high as 98 dBA on-site. Assuming an attenuation rate of 6 dBA for every doubling of distance, the nearest sensitive receptors would experience noise levels as high as 79-80 dBA when construction activities occur outdoors. Noise measurements taken for the City's General Plan Update show that existing ambient traffic noise levels along Fassler Avenue are approximately 50 to 60 dBA. As such, the construction phase of the project would result in an increase in ambient noise levels by more than 5 dBA which is considered a significant impact. As shown in Table V.A-3, the use of mufflers on construction equipment could reduce their noise levels by an average of 2 dBA; however, not every piece of construction equipment includes mufflers and thus this 2 dBA decibel reduction would not apply to all construction equipment. Mitigation Measure MM-IV.G-2 would serve to reduce construction noise impacts to off-site sensitive receptors; however, these impacts would remain **significant and unavoidable** as there is no guarantee that implementation of Mitigation Measure MM-IV.G-2 would reduce construction noise levels at the sensitive receptors below the 5 dBA threshold of significance.

During the operational phase of the project, temporary or periodic increases in ambient noise levels may occur from the heating, ventilation, and air conditioning (HVAC) systems which may be installed for the residential development. Residential HVAC systems would result in noise levels that average between 45 and 55 dBA Leq at 50 feet from the equipment. Noise from stationary or

point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. In addition, noise levels are also generally reduced by 1 dBA for each 1,000 feet of distance due to air absorption. Noise levels may also be reduced by intervening structures – generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The normal noise attenuation within residential structures with open windows is about 17 dBA, while the noise attenuation with closed windows is about 25 dBA (National Cooperative Highway Research Program, 1971).

The nearest and most notable sensitive receptor to the project site is the multi-family development building located approximately 500 (\pm 20) feet to the east of the proposed project site. Given that the project would be at minimum 500 (\pm 20) feet away from the nearest sensitive receptor, one could expect the HVAC system to have a dBA of less than 1, which would be inaudible and below the 5 dBA threshold of significance (Caltrans, 1998; U.S. DOT, 1990). Project development would result in land uses that are consistent with the General Plan land use designation for the project site and would generate operational noise levels that are similar to surrounding land uses. Therefore, on-site operational noise impacts would ***less than significant***.

CUMULATIVE IMPACTS

Cumulative Significance Criteria

For purposes of this SEIR, the proposed project would have a significant cumulative effect if:

- the cumulative effects of related projects (past, current, and probable future projects) are not significant and the incremental impact of implementing the proposed project is substantial enough, when added to the cumulative effects of related projects, to result in a new cumulatively significant impact; or
- the cumulative effects of related projects (past, current, and probable future projects) are already significant and implementation of the proposed project makes a considerable contribution to the effect.

The standards used herein to determine considerability are that either the impact must be substantial or must exceed an established threshold of significance.

Cumulative Analysis

Expose Persons to or Generate Noise Levels in Excess of Standards

The geographic scope for cumulative impacts related to noise includes projects within Pacifica particularly near the project site (Table III-1). Development of the project in combination with the cumulative projects listed in Table III-2 has the potential to have a cumulative impact related

to noise. The cumulative projects listed in Table III-2 consist of projects of various land uses, including (but not limited to) single-family residential, multi-family residential, commercial, and retail. Construction noise is localized in nature and decreases substantially with distance. As shown in Table III-2, Harmony @ 1 is the only cumulative project located close enough to create a cumulative effect. The properties that may experience cumulative noise from the proposed project and Harmony @ 1 are the proposed project and Harmony @ 1. Other surrounding properties are private vacant land or North Coast County Water District property. Developed properties or sensitive receptors would be located approximately 500 feet or more from either the construction site of the proposed project or the Harmony @ 1 site, which would allow cumulative noise to attenuate. Implementation of Mitigation Measure MM-IV.G-2 would reduce project construction impacts related to the FTA General Construction Noise Criteria to a less-than-significant level. Overall, cumulative impacts related to the exposure to or generation of noise levels in excess of standards would be less than significant.

Substantial Temporary or Periodic Increase in Ambient Noise Levels

The construction phase of the proposed project would result in an increase in ambient noise levels by more than 5 dBA which is considered a significant impact relative to a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Mitigation Measure MM-IV.G-2 would serve to reduce project construction noise impacts to off-site sensitive receptors; however, these project impacts would remain significant and unavoidable. Construction of the proposed project and cumulative projects would result in significant cumulative impacts related to a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the cumulative projects. The project's contribution is considered to be cumulatively considerable.

Given that the project would be at minimum 500 (\pm 20) feet away from the nearest sensitive receptor, one could expect the HVAC system to have a dBA of less than 1, which would be inaudible and below the 5 dBA threshold of significance (Caltrans, 1998; U.S. DOT, 1990). Therefore, cumulative operational noise impacts would be less than significant.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project noise impacts related to the exposure to or generation of noise levels in excess of standards during the construction phase would be **less than significant** after mitigation. Project impacts during the construction phase relative to a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project would remain **significant and unavoidable** after mitigation.

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