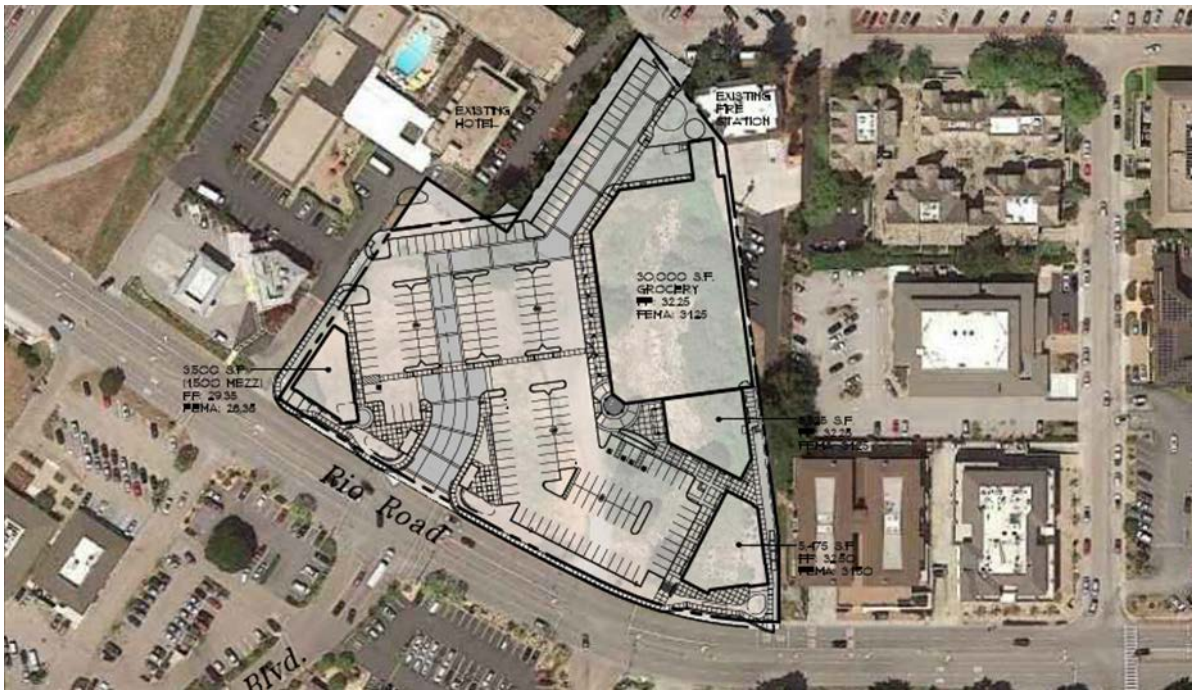

Rio Ranch Marketplace Project

Draft Environmental Impact Report

SCH#2017071058

prepared by

County of Monterey
RMA – Planning Department
1441 Schilling Place
Salinas, California 93901
Contact: Craig Spencer, Senior Planner

prepared with the assistance of

Rincon Consultants, Inc.
437 Figueroa Street, Suite 203
Monterey, California 93955

August 2018

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Executive Summary

This section summarizes the characteristics of the proposed project as well as the environmental impacts, Mitigation Measures, and residual impacts associated with implementation of the proposed project.

Project Synopsis

Project Applicant

Foothill Partners
1121 White Rock Road, Suite 205
El Dorado Hills, California 95762
(915) 939-9890

Lead Agency Contact Person

Craig Spencer, Senior Planner
County of Monterey
Resource Management Agency, Land Use and Community Development Division
1441 Schilling Place, 2nd Floor
Salinas, California 93901
(831) 755-5233

Project Description

Foothill Partners is proposing to build a commercial retail development on approximately 3.8 acres of land located at 3705 Rio Road within the County of Monterey's Carmel Valley Master Plan Area in unincorporated Monterey County, California. The retail development would consist of four commercial retail buildings, including a maximum 23,000 square foot convenience market/grocery store and three smaller buildings ranging from approximately 5,000 to 8,335 square feet. The development would additionally include two commercial retail farm sheds of 250 square foot each. In total, the project would involve the construction of 42,310 square feet of commercial space, and the building footprint of all buildings would occupy 26 percent of the 164,421-square foot site. The project characteristics, including square footage of each building, are presented in Table 4 in Section 2, *Project Description*. A preliminary site plan is shown in Figure 6.

The majority of the site is within the 100-year flood zone. The applicant would be required to formally remove the project site from the FEMA 100-year floodplain through the placement of fill in the northernmost portion of the project site. The project includes merging three legal lots of record and adjusting the lot line between the resulting legal lot and the boundary of the adjacent lot containing the Carmel Mission Inn. The site also includes a 60-foot right-of-way, or abandoned driveway, that runs north to south, bisecting the property. The current access point to the project site at Rio Road and Carmel Center Place would be eliminated, reducing this four-way intersection to a three-way intersection. Primary access to the project site would be via a reconfigured traffic-signal controlled intersection at Rio Road and Crossroads Boulevard. Three secondary access points

to the project would be provided on the western boundary of the project at the existing main driveway to the Carmel Mission Inn, at the northern corner of the project connecting to Clocktower Place in the southwest corner of the existing Barnyard parking lot, and as an extension of the main driveway aisle to the existing traffic circle near the lobby entrance of the Carmel Mission Inn.

The project would be served by California-American Water Company (CalAm), connecting to an existing Cal Am water supply line beneath Rio Road. The project would require 4.49 acre feet of allocated water per year (AFY), which would be met through three sources, identified in Section 2, *Project Description*. Sewer service would be provided via connection to the Carmel Wastewater District (CAWD). Wastewater generated by the proposed project would be collected and conveyed through a conventional gravity system located within the proposed parking areas. The wastewater collected on-site would be conveyed through a new pipe extending approximately 45 feet in the public right-of-way to an existing CAWD sanitary sewer system located beneath Rio Road. The project would incorporate native and drought tolerant, adaptive species; bio-retention basins that would detain and filter stormwater; and a rainwater harvesting system that would capture and store stormwater from the grocery store in a cistern to provide a supplemental supply of irrigation water for the site.

Project Objectives

The applicant's objectives for the proposed Rio Ranch Marketplace project are summarized as follows:

1. To develop a new retail center anchored by a specialty grocery store and complementary commercial uses to provide the local trade area with shopping alternatives in a high-quality shopping environment;
2. To divert to the project shopping trips from Carmel Village, Carmel Valley, Carmel Highlands and Big Sur Coast currently destined for Monterey and Pacific Grove for shopping at Whole Foods, Trader Joe's and other specialty grocers;
3. To contribute to the local economy through new capital investment, the creation of new employment opportunities, and the expansion of the County's tax revenues;
4. To develop full-service retail uses near regional roadway and highway facilities, and near other commercial uses, to minimize travel lengths and utilize existing infrastructure to the maximum extent possible;
5. To implement the County of Monterey General Plan;
6. Implement a high-quality architectural design that improves the overall aesthetics of the project site and surrounding area.

Alternatives

Two alternatives to the proposed project were chosen for analysis as follows:

- Alternative 1: No Project Alternative
- Alternative 2: Reduced Project Alternative

The California Environmental Quality Act (CEQA) requires that an environmentally superior alternative be identified among those analyzed. It further states that if No Project Alternative is identified as environmentally superior, the next most environmentally superior alternative must also be identified. When taking into account every environmental impact area, Alternative 1 would

be the environmentally superior alternative. Thus, the other alternative evaluated in this EIR, the Reduced Project Alternative, would be the environmentally superior alternative for the purposes of CEQA.

Refer to Section 6, *Alternatives*, for descriptions and analyses of these alternatives.

Areas of Known Controversy

The EIR scoping process did not identify any areas of known controversy for the proposed project. Comments received during the scoping process were related to requests for a detailed traffic study. A summary of comments received during the scoping process are included in Table 2 in Section 1, *Introduction*.

Environmental Issues Found Not to be Significant

Section 4.9, *Effects Found Not to be Significant,* summarizes issue areas from the environmental checklist that were determined to be less than significant or have no impact. As discussed in Section 4.9, *Effects Found Not to be Significant*, there is no substantial evidence that significant impacts would occur in relation to the following issue areas: Aesthetics, Agricultural and Forestry, Hazards and Hazardous Materials, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, and Utilities and Service Systems. Impacts to Air Quality, Biological Resources, Climate Change, Cultural, Tribal, and Paleontological Resources, Geology and Soils, Hydrology and Water Quality, Noise, and Transportation and Circulation are discussed in Section 4, *Environmental Impact Analysis*.

Summary of Impacts and Mitigation Measures

Table 1 includes a brief description of the environmental issues relative to the proposed project, the identified environmental impacts, proposed Mitigation Measures, and residual impacts (the impact after application of mitigation, if required). Impacts are categorized by significance as follows:

- **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible Mitigation Measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the State *CEQA Guidelines*.
- **Less than Significant with Mitigation Implemented.** An impact that can be reduced to below the threshold level given reasonably available and feasible Mitigation Measures. Such an impact requires findings under §15091 of the State *CEQA Guidelines*.
- **Less than Significant.** An impact that may be adverse, but does not exceed the threshold levels and does not require Mitigation Measures. However, Mitigation Measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact.** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Table 1 Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measure(s)	Significance After Mitigation
Aesthetics		
The proposed project would have a less than significant impact on aesthetics.	No mitigation is required.	Impacts would be less than significant.
Agriculture and Forestry		
The proposed project would have no impacts on agriculture and forestry.	No mitigation is required.	No impact.
Air Quality		
Impact AQ-1. Construction and operation of the proposed project would not generate air pollutants in quantities that exceed MBARD significance thresholds. Therefore, the proposed project would not violate, or contribute substantially to the violation of an air quality standard. This impact would be less than significant.	As the impact would be less than significant, no mitigation is required. However, the following measures are *recommended* to ensure project consistency with applicable General Plan policies and to further minimize the less than significant air quality impacts from construction activities. **AQ-1(a) Measures to Reduce Fugitive Dust** ▪ Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure. ▪ Prohibit all grading activities during periods of high wind (over 15 mph). ▪ Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days). ▪ Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydro seed area. ▪ Haul trucks shall maintain at least 2'0" of freeboard. ▪ Cover all trucks hauling dirt, sand, or loose materials. ▪ Plant tree windbreaks on the windward perimeter of construction projects if adjacent to open land. ▪ Plant vegetative ground cover in disturbed areas as soon as possible. ▪ Cover inactive storage piles. ▪ Install wheel washers at the entrance to construction sites for all exiting trucks. ▪ Pave all roads on construction sites. ▪ Sweep streets if visible soil material is carried out from the construction site. ▪ Post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the Monterey Bay 8-3 Unified Air Pollution Control District shall be visible to ensure compliance with	Implementation of Mitigation Measures AQ-1(a) and (b) would ensure project consistency with General Plan policies and minimize air quality impacts from construction activities.

Impact	Mitigation Measure(s)	Significance After Mitigation
	Rule 402 (Nuisance). ▪ Limit the area under construction at any one time. **AQ-1(b) Standard Mitigation for Construction Equipment** ▪ Maintain all construction equipment in proper condition according to manufacturer's specifications ▪ Fuel all off-road and portable diesel powered equipment with ARB-certified motor vehicle diesel fuel (non-taxed version suitable for use off-road) ▪ Use diesel construction equipment meeting ARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State off-Road Regulation ▪ Use on-road heavy-duty trucks that meet the ARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines and comply with the State On-Road Regulation; construction or trucking companies with fleets that that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NOx exempt area fleets) may be eligible by proving alternative compliance ▪ All on- and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5 minute idling limit ▪ Prohibit diesel idling within 1,000 feet of sensitive receptors ▪ Prohibit staging and queuing areas within 1,000 feet of sensitive receptors ▪ Electrify equipment when feasible ▪ Substitute gasoline-powered in place of diesel-powered equipment, where feasible ▪ Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel. **Monitoring Action for AQ-1(a) and (b):** The project applicant shall require construction contractors to incorporate the above standard Mitigation Measures, as applicable, to reduce PM, ROG, and NO_X emissions from construction activities. Mitigation Measures shall be listed on project construction plans and the project proponent shall perform periodic site inspections during construction to ensure that Mitigation Measures are being implemented.	

Impact	Mitigation Measure(s)	Significance After Mitigation
Impact AQ-2. Operation of the proposed project would not generate PM_{10} emissions in quantities exceeding MBARD's significance thresholds and the project would be consistent with the AQMP. Therefore, the project would not result in a cumulatively considerable net increase in PM_{10} or ozone.	No mitigation is required.	Impacts would be less than significant.
Impact AQ-3. The project would not generate volumes of traffic that would result in a violation of CO ambient air quality standards.	No mitigation is required.	Impacts would be less than significant.
Impact AQ-4. The project would not generate substantial levels of diesel exhaust during construction. Therefore, the project would not expose sensitive receptors to substantial concentrations of TACs.	No mitigation is required.	Impacts would be less than significant.
Impact AQ-5. The proposed project would not create objectionable odors that would affect neighboring properties. Impacts related to odors would be less than significant.	No mitigation is required.	Impacts would be less than significant.
Biological Resources		
Impact B-1. Implementation of the proposed project has the potential to impact special status animal species, specifically California red-legged frogs. Impacts would be significant but mitigable.	**B-1(a) Worker Environmental Awareness Program (WEAP)** ▪ Prior to issuance of Building or Grading permits, and prior to initiation of construction activities, including staging and mobilization, all personnel associated with project construction shall attend WEAP training, conducted by a qualified biologist, to aid workers in recognizing special status species and sensitive biological resources that may occur on-site. The program shall include identification of the special status species and their habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and Mitigation Measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. All employees shall sign a form documenting that they have attended the WEAP and understand the information presented to them. **Monitoring Action:** The WEAP form(s) shall be submitted to the Chief of Planning for review and approval prior to issuance of building or grading permits and prior to commencement of any construction activities.	Implementation of Mitigation Measures B-1(a) through B-1(c) would reduce impacts to special status animals to a less than significant level.

Impact	Mitigation Measure(s)	Significance After Mitigation
	B-1(b) CRLF Pre-construction Survey and Impact Avoidance Measures shall be taken to identify, and if possible, avoid impacts California Red legged frogs (CRLF). Measures for identification of CRLF shall include: ▪ Within 48 hours prior to the start of construction activities, including staging and mobilization, a qualified biologist shall conduct pre-construction surveys in accordance with the 2005 Guidance on Site Assessments and Field Surveys for California Red-legged Frog, within suitable upland habitat (areas with small mammal burrows, blackberry brambles, or dense vegetation) on-site. **Monitoring Action:** The results of this survey shall be submitted to the Chief of Planning for review and approval prior to the initiation of construction activities. If no CRLFs are observed, ongoing measures described below shall be implemented but Mitigation Measure B-1 (c) may not be necessary. If CRLFs are observed, Mitigation Measure B-1 (c) shall be implemented. Ongoing during all construction activities, measures taken to avoid impacts to CRLF shall include: ▪ Ongoing monitoring by construction personnel pursuant to Mitigation Measure B-1 (a). ▪ Water shall not be allowed to pool in a manner that may attract CRLF. ▪ All food-related garbage shall be placed in tightly sealed containers at the end of each workday to avoid attracting predators. Containers shall be emptied and garbage removed from the construction site at the end of each workweek. If sealed containers are not available, garbage shall be removed from the construction site upon completion of daily activities. All garbage removed from the construction site shall be disposed of at an appropriate off-site refuse location ▪ Pets shall be prohibited at the construction site. If, at any time during construction, federally and/or state protected species are inadvertently harmed, construction activities shall cease and Mitigation Measure B-1 (c) shall be implemented. All incidences of harm shall be reported to the CDFW and USFWS within 48 hours. **Monitoring Action:** Prior to final inspection of grading and building permits, the applicant shall demonstrate to the satisfaction of the Chief of Planning that avoidance measures were implemented during construction. Evidence shall include photos of the site during construction and a written statement from a qualified biologist. **B-1(c) USFWS Consultation** If, at any time during project implementation, CRLFs,	

Impact	Mitigation Measure(s)	Significance After Mitigation
	during any life stages, are identified within the work area and impacts to individuals cannot be avoided, construction and grading in these areas shall be halted, and the County and USFWS shall be contacted immediately to initiate Federal Endangered Species Act consultation. No CRLFs shall be captured or relocated without expressed written permission from the USFWS. If CRLF are observed, the following additional measures shall be implemented: ▪ All areas where this species occurs shall be avoided until the approved biologist has determined that this species is no longer present. No life stages of this species shall be relocated without a take authorization from the USFWS and/or CDFW. If relocation is authorized, the species shall be taken to an approved relocation site prior to initiation of construction activities. ▪ A biologist approved by the USFWS and CDFW shall be present on-site during all ground disturbing activities, including vegetation removal, and grading. Once these activities have been completed, the approved biologist shall conduct periodic inspections of the work site of not less than once per week when construction activities are occurring in/adjacent to suitable habitat. Additional site visits should occur during rain events when special-status amphibians are likely to be mobile to ensure that they are not entering work areas. Work activities in or adjacent to suitable habitat shall be completed between April 1 and November 1 to the greatest extent feasible. **Monitoring Action:** If at any time prior to construction activities or during construction activities, potential impacts to CRLF are identified, construction activities shall not resume until authorized by a qualified biologist and, if applicable, USFWS and CDFW. Authorization from the qualified biologist, and if applicable CDFW and USFWS, shall be submitted to the Chief of Planning for review and approval prior to commencing or recommencing construction activities.	
Impact B-2. Construction of the proposed project could directly impact nesting raptors and other avian species protected under existing regulations by causing injury, death, or nest failure. Potential impacts to nesting birds would be significant but mitigable.	**B-2 Pre-construction Surveys for Nesting Birds and Raptors** The nesting season generally occurs from February 1 to September 15. For tree removal or construction activities occurring during the nesting season, surveys for nesting birds and raptors covered by the CFGC and the MBTA shall be conducted by a qualified biologist no more than 14 days prior to tree removal or initiation of any construction activities. Construction activities include any initial work onsite,	Implementation of Mitigation Measure B-2 would reduce impacts to nesting birds to a less than significant level.

Impact	Mitigation Measure(s)	Significance After Mitigation
	such as construction staging and vegetation removal. The surveys shall include the entire project site plus a 100-foot buffer for non-raptors and 250-foot buffer for raptors. If active nests are located, the qualified biologist shall establish avoidance buffers based on the species, nest location and observed behavior. Buffer shall be a minimum of 25 feet for non-raptor bird species and a minimum of 100 feet for raptor species. All construction work shall be conducted outside any designated avoidance zones. Larger than minimum buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The biologist shall have full discretion for establishing a suitable buffer. The buffer area(s) shall be closed to all construction personnel and equipment until the young are no longer reliant on the nest site. A qualified biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the avoidance buffer. **Monitoring Action:** No more than 14 day prior to removal of trees or initiation of construction activities, the applicant shall submit a written statement from a qualified biologist, to the satisfaction of the Chief of Planning describing how the Mitigation Measure has been complied with.	
Impact B-3. Construction of the proposed project would require removal of native trees, which are protected under CVMP policy CV-3.11 and Monterey County Code Section 21.64.260. Pursuant to required receipt of a tree removal permit before proceeding with removals, the project would not conflict with either policy or ordinance. Therefore, potential impacts would be less than significant.	No mitigation is required.	Impacts would be less than significant.
Climate Change		
Impact CC-1. The proposed project would generate GHG emissions during construction and operation that exceed the applicable efficiency threshold. This impact would be significant but mitigable.	**CC-1 GHG Reduction Plan** Prior to consideration of a Use Permit for the project, the project developer shall prepare a project GHG Reduction Plan to reduce annual GHG emissions over the operational lifetime of the project. The GHG reduction plan shall be capable of maintaining annual emissions from the project at or below 1,225 MT CO_2e per year. If GHG emissions cannot be reduced to 1,225 MT CO_2e per year through compliance with such a plan, the applicant shall purchase carbon	Implementation of Mitigation Measure CC-1 would reduce GHG emission impacts to a less than significant level.

Impact	Mitigation Measure(s)	Significance After Mitigation
	offsets in an amount sufficient to achieve annual emissions of 1,225 MT CO2e per year, prior to issuance of grading or building permits. Carbon offsets shall be purchased from a validated source to offset annual GHG emissions. The plan would be implemented on-site by the project applicant and may include, but is not limited to, the following measures: **On-site Emission Reduction Measures** ▪ Installing energy efficient equipment, appliances, heating, and cooling exceeding California Green Building Code standards ▪ Installing renewable energy sources ▪ Implementing energy efficient building design exceeding California Building Code requirements ▪ Installing green roofs ▪ Promoting water conservation and recycling, such as through the use of irrigation controllers ▪ Purchasing carbon offsets through an accredited program **Mobile Source Emission Reduction Measures** ▪ Promoting alternative fuel vehicles, such as by providing additional ZEV charging infrastructure and designating parking spaces for ZEV or hybrid vehicles ▪ Providing incentives and outreach for future tenants to promote employee ridesharing and transit use **Monitoring Action:** The GHG Reduction Plan shall be prepared by the applicant and submitted to the Chief of Planning for review and approval prior to consideration of the Use Permit at the Planning Commission. Applicable elements of the GHG Reduction Plan shall be reflected on project site plans prior to approval of grading or building permits and implemented in the project prior to final inspection.	
Impact CC-2. The proposed project would conflict with local and statewide policies and regulations intended to reduce GHG emissions. Impacts would be significant but mitigable.	Implementation of **Mitigation Measure CC-1 GHG Reduction Plan** is required.	Implementation of Mitigation Measure CC-1 would reduce impacts to a less than significant level.
Cultural, Tribal Cultural, and Paleontological Resources		
Impact CR-1. Construction of the proposed project would not involve ground-disturbing activities such as grading and surface excavation, which have the potential to unearth or adversely impact previously identified historical and/or archeological resources. Impacts would be less than significant with mitigation incorporated.	**CR-1 (a) Archaeological Monitoring** Initial project-related ground-disturbing activities shall be observed by a qualified archaeological monitor under the direction of an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for prehistoric archaeology (NPS 1983). Monitoring activities shall be coordinated with a Native American monitor required under Mitigation Measure CR-3(a). If archaeological resources are encountered during	Implementation of Mitigation Measures CR-1(a) and CR-1(b) would reduce impacts to previously unidentified archaeological resources to a less than significant level.

Impact	Mitigation Measure(s)	Significance After Mitigation
	ground-disturbing activities, work in the immediate area shall halt, the County shall be notified, and the find shall be evaluated for significance under CEQA. Archaeological monitoring may be reduced or halted at the discretion of the monitor as warranted by conditions such as encountering bedrock, ground disturbance is occurring in fill, or negative findings during the first 60 percent of rough grading. If monitoring is reduced to spot-checking, spot-checking shall occur when ground-disturbance moves to a new location within the project site and when ground disturbance will extend to depths not previously reached (unless those depths are within bedrock). **CR-1 (b) Unanticipated Discovery of Cultural Resources** If cultural resources are encountered during ground-disturbing activities, work in the immediate area and within 50 feet of the discovery shall halt and the qualified archaeologist shall implement a Phase II subsurface testing program to determine resource boundaries, assess the integrity of the resource, and evaluate the resource's significance through a study of its features and artifacts. Construction activities can continue in areas 50 feet away from the find and not associated with the cultural resource location. If the resource is determined not to be significant, no further archaeological investigation or mitigation shall be required. If the resource is determined to be significant, the County of Monterey may choose to allow the capping of the area containing the resource using culturally sterile and chemically neutral fill material. If such capping occurs, then the qualified archaeologist shall monitor the placement of fill upon the resource. If a significant resource will not be capped, the results and recommendations of the Phase II study shall determine the need for a Phase III data recovery program designed to record and remove significant cultural materials that could otherwise be tampered with or disturbed by project construction. If a Phase III data recovery program is warranted, a Cultural Resources Data Recovery Plan shall be developed by the qualified archaeologist to outline excavation and laboratory procedures. The plan shall be submitted to the County for review and approval prior to proceeding with grading and construction activities. Upon completion of monitoring and any necessary Phase II and/or Phase III excavation, a report shall be submitted to the County for review and approval. **Monitoring Action:** Prior to issuance of grading or construction permits and prior to ground disturbing activities, the applicant shall submit a copy of an executed agreement with a qualified archeologist providing the required monitoring services, to the	

Impact	Mitigation Measure(s)	Significance After Mitigation
	Chief of Planning for review and approval. Prior to final building inspection, the applicant shall submit a letter from a qualified archeologist detailing how the monitoring requirements were met.	
Impact CR-2. Construction of the proposed project would involve ground-disturbing activities such as grading and surface excavation, which have the potential to unearth or adversely impact previously unidentified paleontological resources. Impacts would be Less Than Significant with Mitigation Incorporated.	**CR-2 (a) Paleontological Worker Environmental Awareness Program** Prior to the start of construction, a project paleontologist who meets the standards of the SVP (2010) or his or her designee shall conduct training for construction personnel regarding the appearance of fossils and the procedures for notifying the County and the project paleontologist should fossils be discovered by construction staff. The Worker Awareness Program (WEAP) training requirement shall be fulfilled at the time of a preconstruction meeting. **CR-2 (b) Paleontological Monitoring** Ground-disturbing construction activities (including grading, trenching, foundation work, and other excavations) in previously undisturbed sediments that exceed 10 feet in depth shall be monitored on a full-time basis during initial ground disturbance. Monitoring shall be conducted by a qualified paleontological monitor, who is defined as an individual who has experience with collection and salvage of paleontological resources and meets the minimum standards of the SVP (2010). The duration and timing of the monitoring shall be determined by the project paleontologist and based upon the location and extent of proposed ground disturbance. If the project paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, the project paleontologist may recommend that monitoring be reduced to periodic spot-checking or cease entirely. Monitoring is not necessary in artificial fill or for activities that do not reach 10 feet in depth. **CR-2 (c) Unanticipated Discovery of Paleontological Resources** In the event of a fossil discovery during construction, all work in the immediate vicinity of the find shall cease. A qualified paleontologist shall evaluate the find before restarting construction activity in the area. If it is determined that the fossil(s) is (are) scientifically significant as defined by the SVP (2010), the project paleontologist shall notify the County and complete the following actions to mitigate impacts to significant fossil resources: 1) **Salvage of Fossils.** The project paleontologist (or paleontological monitor) shall recover significant fossils following standard field procedures for collecting paleontological resources, as described by the SVP (2010). Typically, fossils can be safely	Implementation of Mitigation Measure CR-2 (a) through CR-2 (c) would reduce impacts to previously unidentified paleontological resources to a less than significant level.

Impact	Mitigation Measure(s)	Significance After Mitigation
	salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case, the paleontologist shall have the authority to temporarily direct, divert, or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner. 2) **Preparation and Curation of Recovered Fossils.** Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection (such as the University of California Museum of Paleontology), along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the project paleontologist. **Monitoring Action:** Prior to issuance of grading or construction permits and prior to any ground disturbing activities, the applicant shall submit a copy of an executed agreement with a qualified paleontologist to provide the required monitoring services, to the Chief of Planning for review and approval. Prior to final building inspection, the applicant shall submit a letter from a qualified paleontologist detailing how the monitoring requirements were met.	
Impact CR-3. Construction of the proposed project would involve ground-disturbing activities such as grading and surface excavation, which have the potential to unearth or adversely impact previously unidentified human remains. Impacts would be less than significant with mitigation Incorporated.	Implementation of **Mitigation Measures CR-1 and CR-4** is required.	Impacts would be less than significant with implementation of Mitigation Measures CR-1 and CR-4.
Impact CR-4. The proposed project would involve construction activities that have the potential to adversely impact tribal cultural resources, though no tribal cultural resources have been identified within the project site. Impacts would be less than significant with mitigation incorporated.	**CR-4 (a) Native American Monitoring** An OCEN Tribal Monitor shall be retained to be on site to monitor all project-related ground-disturbing construction activities (i.e., grading, excavation, potholing, etc.) within previously undisturbed soils. **CR-4 (b) Unanticipated Discovery of Tribal Cultural Resources** In the event the OCEN Tribal Monitor identifies tribal cultural resources, the monitor shall be given the authority to temporarily halt construction in the immediate vicinity and within 50 feet of the discovery and to determine if it is a tribal cultural resource under CEQA in consultation with the County of Monterey and, if necessary, the qualified	Implementation of Mitigation Measure CR-4 (a) and CR-4(b) would reduce impacts to previously unidentified tribal cultural resources to a less than significant level.

Impact	Mitigation Measure(s)	Significance After Mitigation
	archaeologist. Construction activities can continue in areas 50 feet away from the find and not associated with the cultural resource location. If the discovery proves to be significant, additional work such as testing or data recovery may be warranted. Any resources found should be treated with appropriate dignity and respect. At the completion of monitoring activities, all artifacts of Native American origin shall be returned to OCEN through the tribal monitor. **Monitoring Action:** Prior to issuance of building or grading permits, the applicant shall provide appropriate agreements with an OCEN Tribal monitor to the Chief of Planning for review and approval. Prior to final building permit inspection, the applicant shall provide documentation in writing including photos demonstrating that the mitigation was implemented during construction activities.	
Geology and Soils		
Impact GEO-1. Seismically induced groundshaking could destroy or damage structures and infrastructure, resulting in loss of property or risk to human safety. However, mandatory compliance with applicable California Building Code requirements and specifications for the project's building foundations would reduce impacts to a less than significant level.	No mitigation is required.	Impacts would be less than significant.
Impact GEO-2. Seismically included ground shaking could destroy or damage structures and infrastructure, resulting in loss of property or risk to human safety. The probability of liquefaction occurring in the sand strata extending from 15 to 48 feet below ground surface is high to very high. However, the potential for liquefaction-induced lateral spreading is low. Potential impact resulting from liquefaction would be significant but mitigable.	**GEO-2 Reduction of Liquefaction Potential** Prior to issuance of a grading permit, the applicant shall submit to RMA Building Services for Building Official review and approval, a design-build ground improvement program prescribed by a qualified engineer to minimize liquefaction potential on the site. Measures to reduce liquefaction impacts could include, but may not be limited to specialized design of foundations by a structural engineer. Liquefaction shall be reduced such that people and structures would not be exposed to a substantial adverse effect, including the risk of loss, injury, or death involving seismic-related liquefaction, nor be exposed to on- or off-site liquefaction as a result of the proposed project, as determined by a registered professional engineer and the Building Official. To minimize construction-related vibration impacts of ground improvement techniques such as the vibro replacement stone column technique, piles shall not be driven within 20 feet of any existing, adjacent structures or fuel tanks unless a qualified engineer first certifies	Implementation of Mitigation Measure GEO-2 would reduce potential liquefaction impacts to a less than significant level.

Impact	Mitigation Measure(s)	Significance After Mitigation
	that the impacts of this technique to shake or crack foundations, or liquefy soil supporting these structures can be avoided. All ground improvement techniques shall reduce the liquefaction potential to an acceptable level, as determined by the Building Official, and shall be implemented by the applicant. **Monitoring Action:** Prior to the issuance of building permits, the applicant shall submit a report prepared by a qualified, registered engineer to the Building Official for review and approval. The engineer's report shall address the requirements of this mitigation including but not limited to recommendations for adequate foundation design to avoid loss of life or injury resulting from liquefaction and, as applicable, addressing the potential for impacts of the construction of the recommending foundation on adjacent structures. The Building Official shall not approve a construction permit until potential impacts from liquefaction and construction are adequately addressed. Prior to final of building permits, the applicant shall submit written information from a qualified engineer, to the satisfaction of the Building Official verifying that the mitigation has been satisfactorily completed.	
Impact GEO-3. Construction of the proposed project could result in soil erosion or loss of topsoil. However, compliance with existing regulations would reduce impacts to a less-than-significant level.	No mitigation is required.	Impacts would be less than significant.
Impact GEO-4. The project site is not located on a geological unit or soil that is unstable, and would not result in landslides, subsidence, or soil expansion. Impacts would be less than significant.	No mitigation is required.	Impacts would be less than significant.
Hazards and Hazardous Materials		
The proposed project would have no impact on hazards and hazardous materials.	None required.	No Impact.
Hydrology and Water Quality		
Impact H-1. Construction of the proposed project could potentially result in an increase in pollutant discharges to waters of the State. This impact would be significant but mitigable.	**H-1(a) Accidental Spill Control and Environmental Training** Prior to the issuance of a grading permit, the applicant shall submit a Spill Response Plan and Spill Prevention, Control and Countermeasure Plan to the County. The Spill Response Plan (SRP) in combination with the Spill Prevention, Control and Countermeasure (SPCC) Plan to be prepared for the proposed project shall include procedures for quick and safe clean-up of accidental spills. The SRP and/or	Implementation of Mitigation Measures H-1(a) through H-1(d) would reduce impacts related to violation of water quality standards or waste discharge requirements to a less than significant level.

Impact	Mitigation Measure(s)	Significance After Mitigation
	SPCC shall prescribe hazardous materials handling procedures for reducing the potential for a spill during construction, and shall include an emergency response program to ensure quick and safe clean-up of accidental spills. Additionally, an environmental training program shall be established to communicate environmental concerns and appropriate work practices, including spill prevention and response measures to all field personnel. A monitoring program shall be implemented to ensure that the plans are followed during all construction activities. **Monitoring Action:** Prior to the issuance of a grading permit, the applicant shall submit a Spill Response Plan and Spill Prevention, Control and Countermeasure Plan to the Director of the Environmental Health Bureau for review and approval. **H-1(b) Maintain Vehicles and Equipment** All vehicles and equipment, including all hydraulic hoses, shall be maintained in good working order to minimize leaks that could escape the vehicle or contact the ground. **Monitoring Action:** A vehicle and equipment maintenance log shall be updated and provided by the applicant to the County of Monterey RMA – Planning Department on a monthly basis for the duration of project construction. **H-1(c) Design-level Drainage Analysis and Minimization of Runoff** A design-level drainage analysis shall be prepared by a qualified engineer on behalf of the applicant prior to issuance of a grading permit that shall identify existing drainage patterns across the project site and existing off-site stormwater discharge locations. The drainage analysis shall quantify the existing and predicted post-construction peak runoff rates and amounts both on-site and off-site immediately downgradient of the project site. The drainage analysis shall identify any changes to the location of down-gradient discharge of stormwater runoff and any potential impacts on off-site property that would result from those changes. Stormwater control measures shall be developed to maximize on-site infiltration of stormwater and minimize off-site stormwater discharge. These stormwater control measures shall be designed to achieve conformance with Monterey County General Plan Safety Element Policy S-3.1 such that post-development, off-site peak flow discharge from the project site would not be greater than pre-development peak flow discharge. The stormwater control measures may include, as necessary, additional or expanded above-ground retention and/or detention basins,	

Impact	Mitigation Measure(s)	Significance After Mitigation
	stormwater collection tanks, subsurface infiltration devices such as cisterns with permeable bottoms or perforated pipes, permeable pavement, and vegetated swales. The stormwater control measures required by this mitigation may be used, in whole or in part, to satisfy other NPDES permits and the Monterey County Code. **Monitoring Action:** A design-level drainage analysis shall be submitted to and approved by Monterey County RMA – Public Works, Monterey County RMA – Environmental Services, and Monterey County Water Resources Agency prior to issuance of a grading permit. Identified stormwater control measures shall be installed when appropriate during the construction process. Prior to occupancy or final building and grading permits whichever occurs first, the applicant shall demonstrate to the satisfaction of the RMA and Water Resources Agency that installation of sufficient stormwater control measures to achieve conformance with the Monterey County General Plan Safety Element Policy S-3.1 have been constructed. **H-1(d) Stormwater Control Plan, Operation and Maintenance Plan, and Maintenance Agreements** Prior to issuance of occupancy permits, the applicant shall submit a Stormwater Control Plan, prepared by a registered professional engineer, addressing the Post-Construction Stormwater Management Requirements (PCRs) for Development Projects in the Central Coast Region. The plan shall include the location of the drainage facilities and construction details. A report with supporting calculations shall also be provided. The Stormwater Control Plan shall be reviewed by a licensed Geotechnical Engineer to ensure conformance with the Preliminary Geotechnical Investigation (PCE 2017) or Engineering Geology Report. Prior to issuance of occupancy permits, the applicant shall submit an Operation and Maintenance Plan to RMA Environmental Services for review and approval. The plan shall be prepared by a registered Professional Engineer and include, at a minimum, the following: ▪ A site map identifying all structural Stormwater Control Measures requiring O&M practices to function as designed ▪ O&M procedures for each structural Stormwater Control Measure including, but not limited to, LID facilities, retention/detention basins, and proprietorship devices, and ▪ The O&M plan shall include short- and long-term maintenance requirements, recommended frequency of maintenance, and estimated cost for maintenance. **Monitoring Action:** Prior to issuance of occupancy permits, the applicant shall enter into a Maintenance	

Impact	Mitigation Measure(s)	Significance After Mitigation
	Agreement with Monterey County. The applicant shall submit a signed and notarized Maintenance Agreement to RMA Environmental Services for review and approval prior to filing against the property deed with the County Recorder. The agreement shall clearly identify the responsible party for ongoing maintenance of structural Stormwater Control Measures. The Agreement shall contain provisions for an annual report to be prepared by a registered Professional Engineer. The annual report shall be submitted to RMA Environmental Services, for review and approval, no later than August 15th. All recommended maintenance shall be completed by October 15th of that same year. If maintenance is required, certification shall be provided that all recommended maintenance has been completed before the start of the rainy season.	
Impact H-2. Changes in on-site infiltration capacity would not result in a net deficit in aquifer volume or a lowering of the local groundwater table level. Impacts would be significant but mitigable.	Implementation of **Mitigation Measure H-1(c) and Mitigation Measure H-1(d)**, above, would ensure that the amount of on- and off-site stormwater runoff would be reduced to the maximum extent feasible and that the post-development peak discharge rate would not exceed the pre-development peak discharge rate. The stormwater control measures required by these Mitigation Measures would also ensure that infiltration is maximized such that changes in on-site infiltration would not result in a lowering of local groundwater levels or substantially interfere with groundwater recharge.	Implementation of Mitigation Measures H-1(c) and H-1(d) would reduce potential impacts to a less than significant level.
Impact H-3. Construction and operation of the proposed project would alter the on-site topography and drainage patterns and increase the amount of on-site impervious surface, which could increase the rate and amount of on- and off-site runoff and result in erosion, flooding, and the need for expanded stormwater drainage facilities. This impact would be significant but mitigable.	**Mitigation Measure H-1(c) and Mitigation Measure H-1(d)**, above, would ensure that the amount and rate of on- and off-site stormwater runoff would be reduced to the maximum extent feasible. No additional mitigation is required.	Implementation of Mitigation Measures H-1(c) and H-1(d) would reduce potential impacts to a less than significant level.
Impact H-4. Construction of the project could impede or redirect flood flows, expose people or structures to a significant risk of loss, injury or death involving flooding. However, compliance with existing regulations, including the requirements to appropriately elevate the project site above the FEMA 100-year flood elevation would reduce impacts to a less than significant level.	No Mitigation Measures required.	Impacts would be less than significant.

Impact	Mitigation Measure(s)	Significance After Mitigation
Impact H-5. The project's water demand could be met with a combination of water credits and water purchase. as a precondition to obtaining a building permit from the County, the applicant would be required to obtain a Water Permit from the Monterey Peninsula Water Management District that would evaluate and certify that sufficient water supplies are available to serve the project from existing entitlements and resources. As such, this impact would be less than significant.	No Mitigation Measures required.	Impacts would be less than significant.
Land Use and Planning		
The proposed project would have no impact on land use and planning.	None required.	No Impact.
Mineral Resources		
The proposed project would have no impact on mineral resources.	None required.	No Impact.
Noise		
Impact N-1. Noise from project construction activities would generate high levels of noise that could adversely impact existing nearby hotel units and residences. Impacts would be significant but mitigable.	**N-1 Construction Noise Mitigation** The following Mitigation Measure shall be implemented and adhered to by the project applicant and their construction contractor(s) to reduce noise generated from project construction activities: ▪ **Construction Equipment.** Construction equipment shall be properly maintained and in good condition. All internal combustion engine driven machinery will use intake and exhaust mufflers and engine shrouds, as applicable. Equipment engine shrouds shall be closed during equipment operation. Whenever feasible, electrical power shall be used to run air compressors and similar power tools rather than diesel equipment. The developer shall require all contractors, as a condition of contract, to maintain and tune-up all construction equipment to minimize noise emissions. ▪ **Vehicle and Equipment Idling.** Construction vehicles and equipment shall not be left idling for longer than five minutes when not in use. ▪ **Stationary Equipment.** Stationary construction equipment that generates noise that exceeds 60 dBA Leq at the boundaries of the nearby residential uses shall be shielded. Temporary noise barriers used during construction activity shall be made of noise-resistant material sufficient to achieve a Sound Transmission Class (STC) rating of STC 40 or greater, based on sound transmission loss data taken according to ASTM Test Method E90. Such a barrier may provide as	Implementation of Mitigation Measure N-1 would reduce impacts to a less than significant level.

Impact	Mitigation Measure(s)	Significance After Mitigation
	much as a 10 dB insertion loss, provided it is positioned as close as possible to the noise source or to the receptors. To be effective, the barrier must be long and tall enough (a minimum height of eight feet) to completely block the line-of-sight between the noise source and the receptors. The gaps between adjacent panels must be filled-in to avoid having noise penetrate directly through the barrier. The recommended minimum noise barrier or sound blanket requirements would reduce construction noise levels by at least 10 dB. The equipment area with appropriate acoustical shielding shall be designated on building and grading plans. Equipment and shielding shall remain in the designated location throughout construction activities. ▪ **Disturbance Coordinator.** A noise disturbance coordinator shall be designated by the contractor. The noise disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The noise disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall require that reasonable measures warranted to correct the problem be implemented. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site. ▪ **Construction Activities:** Construction activities with the potential to generate noise shall only occur Monday through Saturday between the hours of 7:30 AM and 6 PM. **Monitoring Action:** Prior to issuance of grading permits, the project proponent shall submit building and grading plans that show the appropriate construction equipment noise reduction measures to the County of Monterey Planning Department. Compliance shall be monitored by County Building Inspectors.	
Impact N-2. Project construction would intermittently generate groundborne vibration on and adjacent to the site. This may affect receptors near the project site, but would not create excessive levels of vibration that could cause structural damage or disturb sleep at nearby sensitive receptors. Impacts would be less than significant.	Mitigation Measure GEO-2 would require the minimization of construction-related vibration impacts of ground improvement techniques to be located no closer than 20-feet of any existing, adjacent structures or fuel tanks.	With the Implementation of Mitigation Measure GEO-2, impacts would be less than significant.

Impact	Mitigation Measure(s)	Significance After Mitigation
Impact N-3. Occupants of existing nearby sensitive receptors would not experience roadway noise level increases exceeding applicable thresholds as a result of project-generated traffic. Impacts would be less than significant.	No mitigation is required.	Impacts would be less than significant.
Impact N-4. Project operation would introduce new noise sources typical of proposed market and retail uses to the site. New noise sources would be similar to those of existing adjacent uses and would not result in a noise environment incompatible with existing uses. Impacts would be less than significant.	No mitigation is required.	Impacts would be less than significant.
Population and Housing		
The proposed project would have no impact on population and housing.	None required.	No impact.
Public Services		
The proposed project would have no impact on public services.	None required.	No impact.
Transportation and Circulation		
Impact T-1. Project-generated traffic would cause LOS at two study intersections and six road segments to significantly degrade relative to existing conditions. This impact would be significant and unavoidable.	**T-1 Intersection 3: Highway 1/Rio Road Improvements** Concurrent with development of the shopping center**,** the developer shall lengthen the existing eastbound left-turn lane at Rio Road and Crossroads Boulevard, which would provide access to the project's main entrance, from 170 feet (130 feet of striping) to approximately 265 feet. Extending the length of the existing left turn lane will require the existing 265-foot westbound left turn lane onto southbound Highway 1 to be shortened by an equal 95 feet. In addition, Caltrans and the TAMC are completing the design of a second northbound lane on Highway 1 that will widen Highway 1 by about 30 feet to the east. This will also reduce the length of the westbound Rio Road left turn lane by an equivalent amount. The result will be that the left turn lane will be shortened by a total of 125 feet to about 140 feet, assuming a 60-foot bay taper separating the eastbound left turn lane into the Rio Ranch Shopping Center and the westbound left turn lane onto southbound Highway 1. Consequently, the developer shall also add a second Rio Road westbound left-turn lane onto Highway 1. This will require a 90-foot bay taper, resulting in two left turn lanes each with a length of about 115 feet. The addition of the second left turn lane will require widening Rio Road 11 feet to the south between Highway 1 and the westerly Crossroads driveway, located about 170 feet east of Highway 1. A transition shall be provided to match the existing Rio	Impacts would be significant and unavoidable.

Impact	Mitigation Measure(s)	Significance After Mitigation
	Road southerly curb line on the east side of the middle Crossroads Shopping Center driveway about 250 feet to the east. Modifications along Rio Road will need to be coordinated with Caltrans and TAMC. **Monitoring Action:** Prior to issuance of grading or building permits, the applicant shall obtain all required approvals for road improvements from Caltrans and TAMC. Evidence of the approval shall be submitted to the RMA-Public Works. The required roadway improvements shall be installed prior to occupancy or final of building permits, whichever occurs first.	
Impact T-2. Project-generated traffic would cause LOS at four study intersections and seven road segments to significantly degrade relative to background conditions. Impacts would be significant and unavoidable.	**T-1 Intersection 3: Highway 1/Rio Road Improvement** (see above)	Impacts would be significant and unavoidable.
Impact T-3. Project access and internal circulation as currently designed would pose potential safety hazards to on- and off-site traffic and delivery service employees. Impacts would be significant, but mitigable.	**T-3 Internal Circulation and Project Access Design Improvements** The developer shall incorporate the recommended Mitigation Measures in the traffic study to address the potential impacts to project access and internal circulation. Mitigation would be incorporated into the final site plan and submitted for County review prior to the issuance of building permits. The following recommended measures shall be incorporated: a. Install a stop sign on the project exit at the Barnyard parking lot. b. Install all-way stop control at the four-legged intersection immediately south of the connection to the existing adjacent lodging use. c. Either relocate the loading facility in front of Store B to the on-site parking lot near Stores A and B, or design the loading facility to the satisfaction of the Monterey County Public Works Department. **Monitoring Action:** Prior to the issuance of grading or building permits, plans illustrating the location of stop signs, intersection controls, and loading areas for all proposed buildings shall be submitted to RMA-Public Works for review and approval.	Implementation of Mitigation Measure T-3 would reduce impacts to a less than significant level.
Impact T-4. The project would provide sufficient access to emergency vehicles, would be required to comply with local and State standards for fire safety, and would undergo plan review for compliance with fire code standards. impacts would be less than significant.	No mitigation is required.	Impacts would be less than significant.

Impact	Mitigation Measure(s)	Significance After Mitigation
Impact T-5. The project would not conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities. The project would have temporary, short-term impacts to public transit and pedestrian facilities during project construction. Impacts would be less than significant.	No mitigation is required.	Impacts would be less than significant.
Cumulative Impacts. Project-generated traffic would cause LOS at six study intersections and seven road segments to significantly degrade relative to cumulative conditions. Impacts would be significant and unavoidable.	**T-1 Intersection 3: Highway 1/Rio Road Improvements** (see above)	Impacts would be significant and unavoidable.
Utilities and Service Systems		
The proposed project would have no impact on utilities and service systems.	None required.	No impact.

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1 Introduction

This document is an Environmental Impact Report (EIR) for the proposed Rio Ranch Marketplace project located in the County of Monterey, California. This section discusses (1) the project and EIR background; (2) the legal basis for preparing an EIR; (3) the scope and content of the EIR; and (4) the lead, responsible, and trustee agencies; and (5) the environmental review process required under the California Environmental Quality Act (CEQA). The proposed project is described in detail in Section 2.0, *Project Description*.

1.1 Environmental Impact Report Background

The County of Monterey distributed a Notice of Preparation (NOP) of the EIR for a 33-day agency and public review period starting on July 27, 2017, and ending on August 28, 2017. A scoping meeting was not required nor held for the project pursuant to CEQA Guidelines sections 15082 and 15206.

The County received letters from three agencies in response to the NOP during the public review period. The NOP and NOP response letters are presented in Appendix A of this EIR. Table 2 on the following page summarizes the content of the letters and where the issues raised are addressed in the EIR.

1.2 Purpose and Legal Authority

The proposed project requires the discretionary approval of the County of Monterey; therefore, the project is subject to the environmental review requirements of CEQA. In accordance with Section 15121 of the *CEQA Guidelines* (California Code of Regulations, Title 14), the purpose of this EIR is to serve as an informational document that:

> "...will inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project."

This EIR has been prepared as a project EIR pursuant to Section 15161 of the *CEQA Guidelines*. A Project EIR is appropriate for a specific development project. As stated in the *CEQA Guidelines*:

> "This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project, including planning, construction, and operation."

This EIR is to serve as an informational document for the public, the County of Monterey decision makers, as well as any other public agencies that may have discretionary review over certain aspects of the project. The process will include a public hearing before the Planning Commission to consider certification of a Final EIR and approval of the project. The Planning Commission's decision is appealable to the Board of Supervisor. If the Planning Commission's decision on the project is appealed, the project and EIR would be considered by the Board of Supervisors at a separate "de novo" public hearing.

Table 2 NOP Comments and EIR Response

Commenter	Comment/Request	EIR Section
Agency Comments		
Carmel Valley Association (CVA)	Requests the traffic study include traffic measurements along specific segments and at specific intersections, and requests all raw data is provided for public review in the EIR. Lists the segments and intersections that should be included in the traffic study; and lists the significance criteria and traffic standards that should be considered when determining impacts.	Refer to Section 4.8, *Transportation and Traffic*.
Transportation Agency for Monterey County (TAMC)	TAMC supports the development of a detailed Traffic Impact Analysis to inform the EIR about the impacts to local and regional road networks. TAMC supports the early inclusion and consideration of active transportation strategies in the development of projects, including those noted in the NOP. Consideration should be given to the installation of electric vehicle charging stations, as new construction provides an opportunity to install this needed infrastructure. TAMC supports the use of Intersections Control Evaluations (ICE analysis) when major modifications to intersections are considered.	Refer to Section 4.8, *Transportation and Traffic*.
California Department of Transportation (Caltrans), District 5	Supports local planning efforts that are consistent with State planning priorities intended to promote equity, strengthen the economy, protect the environment, and promote public health and safety. States the traffic study should include the information needed to analyze the impacts (both cumulative and project-specific); recommends that the analysis be prepared in accordance with the Department's "*Guide for the Preparation of Traffic Impact Studies*;" and an alternative methodology that produces technically comparable results. States the traffic study should include information on existing traffic volumes within the study area, including the State transportation system, and should be based on recent traffic volumes less than two years old. Counts older than two years cannot be used as a baseline.	Refer to Section 4.8, *Transportation and Traffic*.

1.3 Scope and Content

In accordance with the CEQA Guidelines, a Notice of Preparation (NOP) of a Draft EIR was circulated to potentially interested parties beginning on July 27, 2017. The NOP, included in Appendix A, indicated that all issues listed in the CEQA Checklist Appendix G would be discussed in the EIR. This EIR also covers other CEQA required topics required to be addressed pursuant to the *CEQA Guidelines*. Section 5, *Other CEQA Required Discussions*, covers these topics including Growth-Inducing Effects, Significant Irreversible Changes, and Energy Effects. Environmental issues addressed under the CEQA Checklist Appendix G are listed below by issues found to be potentially significant and addressed in Section 4, *Environmental Impact Analysis*, or issues found to be less than significant and addressed in Section 4.9, *Effects Found to Be Less Than Significant*.

Environmental topic areas that are addressed in this EIR include:

Issues Found to be Potentially Significant

- Air Quality
- Biological Resources
- Climate Change
- Cultural, Tribal Cultural, and Paleontological Resources
- Geology/Soils
- Hydrology/Water Quality
- Noise
- Transportation and Traffic

Issues Found to be Less Than Significant

- Aesthetics[1]
- Agriculture and Forestry[1]
- Air Quality (Threshold 1)
- Biological Resources (Threshold 2,3,4, and 6)
- Geology and Soils (Threshold 5)
- Hazards/Hazardous Materials[1]
- Hydrology/Water Quality (Threshold 8, 10, and 11)
- Land Use and Planning[1]
- Mineral Resources[1]
- Noise (Thresholds 5 and 6)
- Population and Housing[1]
- Public Services[1]
- Recreation[1]
- Transportation and Circulation (Threshold 3 and 5)
- Utilities and Service Systems (Threshold 1, 2, 5, 6, and 7)

Issues Found to be Significant and Unavoidable

- Transportation and Circulation (Threshold 1 and 2)

This EIR addresses the environmental topic areas referenced above and identifies potentially significant environmental impacts, including both individual and cumulative impacts. In addition, the EIR recommends feasible Mitigation Measures that would reduce impacts to a level below thresholds of significance or eliminate adverse environmental effects when applicable. The EIR also addresses environmental topic areas that would be significant and unavoidable.

The impact analyses contained in Section 4, *Environmental Impact Analysis,* of the EIR include a description of the physical and regulatory setting within each issue area, the methodologies used, followed by an analysis of the project's impacts. Each specific impact is called out separately and

[1] All thresholds for these issue areas are addressed in Section 4.9, *Effects Found Not to Be Significant*.

numbered, followed by an explanation of how the level of impact was determined. When appropriate, feasible Mitigation Measures to reduce significant impacts are included following the impact discussion. Measures are numbered to correspond to the impact that they mitigate. Finally, following the Mitigation Measures is a discussion of the residual impact that remains, if any, following implementation of recommended measures.

The alternatives section of the EIR (Section 6) was prepared in accordance with Section 15126.6 of the *CEQA Guidelines* and focuses on alternatives that are capable of eliminating or reducing significant adverse effects associated with the project while feasibly attaining most of the basic project objectives. In addition, the alternatives section identifies the "environmentally superior" alternative among the alternatives assessed. The alternatives evaluated include the CEQA-required "No Project" alternative and a reduced development scenarios.

The level of detail contained throughout this EIR is consistent with the requirements of CEQA and applicable court decisions. Section 15151 of the *CEQA Guidelines* provides the standard of adequacy on which this document is based. The *Guidelines* state:

> "An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good faith effort at full disclosure."

1.4 Lead, Responsible, and Trustee Agencies

The *CEQA Guidelines* define lead, responsible and trustee agencies. The County of Monterey is the lead agency for the project because it holds principal responsibility for approving the project.

A responsible agency refers to a public agency other than the lead agency that has discretionary approval over the project. A trustee agency refers to a state agency having jurisdiction by law over natural resources affected by a project. There are no responsible or trustee agencies for this project.

1.5 Environmental Review Process

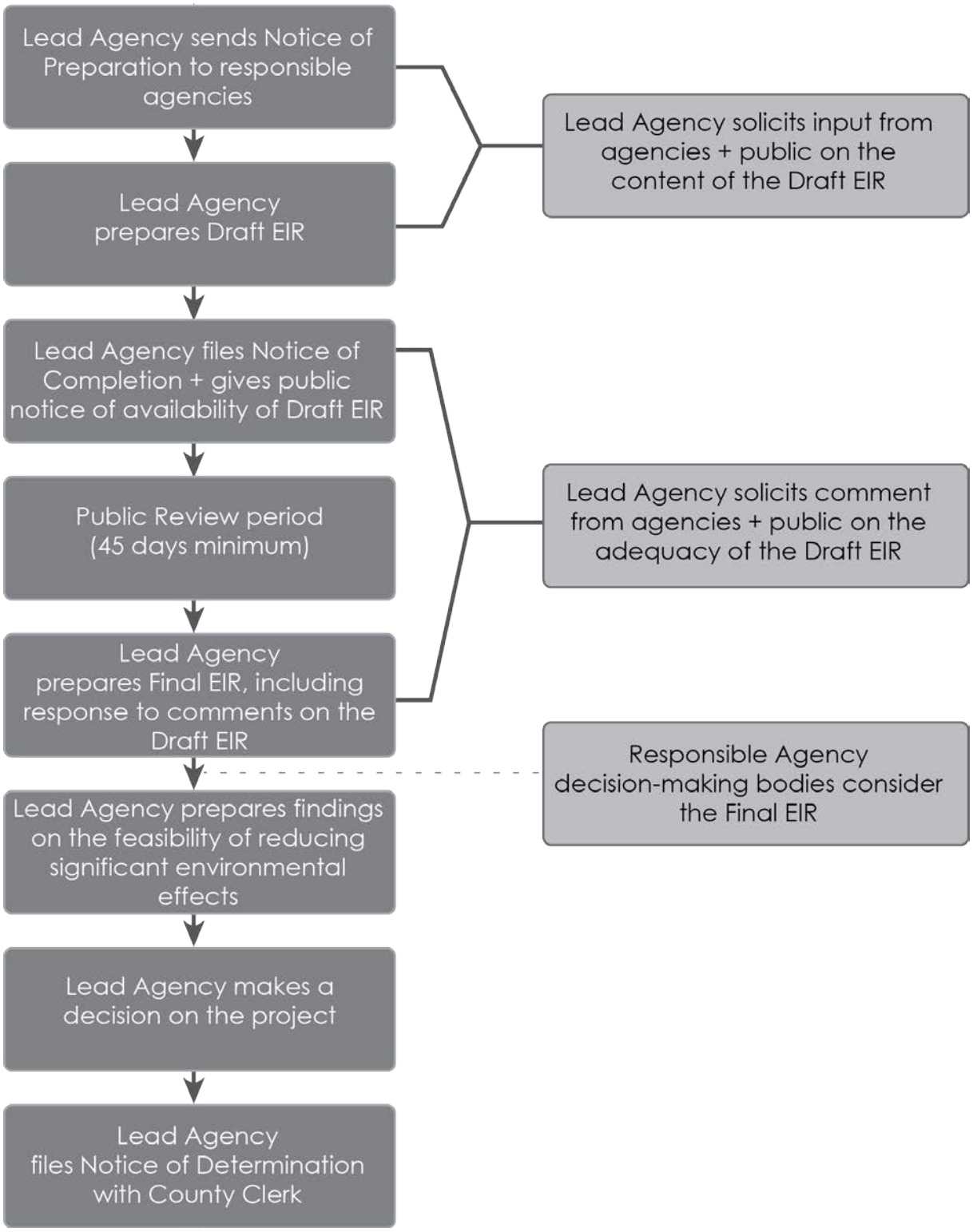
The environmental impact review process, as required under CEQA, is summarized below and illustrated in Figure 1. The steps are presented in sequential order.

1. **Notice of Preparation (NOP)**. After deciding that an EIR is required, the lead agency (County of Monterey) must file an NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (*CEQA Guidelines* Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days. Often, the lead agency holds a scoping meeting during the 30-day NOP review period, although this meeting is not required under CEQA. The project NOP was filed with the State Clearinghouse on July 26, 2017.
2. **Draft EIR Prepared.** The Draft EIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct,

indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) Mitigation Measures; and h) discussion of irreversible changes.

3. **Notice of Completion (NOC).** A lead agency must file a Notice of Completion with the State Clearinghouse when it completes a Draft EIR and prepare a Public Notice of Availability of a Draft EIR. The lead agency must place the Notice in the County Clerk's office for 30 days (Public Resources Code Section 21092) and send a copy of the Notice to anyone requesting it (*CEQA Guidelines* Section 15087). Additionally, the public Notice of Draft EIR Availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit comments from the public and respond in writing to all written comments received that raise significant environmental issues during a minimum 45-day public comment period (Public Resources Code Sections 21104 and 21253).
4. **Final EIR.** A Final EIR must include: a) the Draft EIR; b) copies of comments received during public review; c) list of persons and entities commenting; and d) responses to comments.
5. **Certification of Final EIR.** Prior to making a decision on a proposed project, the lead agency must certify that: a) the Final EIR has been completed in compliance with CEQA; b) the Final EIR was presented to the decision-making body of the lead agency; and c) the decision-making body reviewed and considered the information in the Final EIR prior to approving a project (*CEQA Guidelines* Section 15090).
6. **Lead Agency Project Decision.** The lead agency may a) disapprove the project; b) require changes to the project to reduce or avoid significant environmental effects; or c) approve the project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (*CEQA Guidelines* Sections 15042 and 15043).
7. **Findings/Statement of Overriding Considerations**. For each significant impact of the project identified in the EIR, the lead agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the Mitigation Measures or project alternatives infeasible (*CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency’s decision.
8. **Mitigation Monitoring Reporting Program.** When the lead agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for Mitigation Measures that were adopted or made conditions of project approval to mitigate significant effects.
9. **Notice of Determination (NOD).** The lead agency must file a NOD after deciding to approve a project for which an EIR is prepared (*CEQA Guidelines* Section 15094). A local agency must file the NOD with the County Clerk. The NOD must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30-day statute of limitations on CEQA legal challenges (Public Resources Code Section 21167[c]).

Figure 1 Environmental Review Process



2 Project Description

This section describes the proposed project, including the project applicant, the project site and surrounding land uses, major project characteristics, project objectives, and discretionary actions needed for approval.

2.1 Project Applicant

Foothill Partners
1121 White Rock Road, Suite 205
El Dorado Hills, California 95762

2.2 Lead Agency Contact Person

County of Monterey
RMA – Planning Department
1441 Schilling Place
Salinas, California 93901
831-755-5233
Contact: Craig Spencer, Senior Planner

2.3 Project Location

The approximately 3.8-acre project site is located at 3705 Rio Road within the Carmel Valley Master Plan Area, in unincorporated Monterey County, California. The project site lies approximately 2,500 feet southeast of the City of Carmel-by-the-Sea corporate boundary and is outside of the City's formal sphere of influence (LAFCO 2012). Primary access to the site is currently provided from Rio Road near the intersection of Rio Road and Carmel Center Place, approximately 375 feet southeast of State Route (Highway) 1 and approximately 0.3 mile south of Carmel Valley Road. The project site is comprised of three legal parcels: Assessor's Parcel Numbers [APN] 009-562-002-000, 009-562-015-000, and 009-562-016-000.

Figure 2 illustrates the location of the proposed project within the region, and Figure 3 shows the project within the local context.

2.4 Existing Site Characteristics

The 3.8-acre irregularly-shaped project site is currently undeveloped except for a paved driveway entrance, a gravel driveway, a section of the Carmel Mission Inn parking lot, two wells, utility connections, and an existing above-ground propane tank and shed building located in the northern portion of the site. The site was previously developed with an apartment complex that was

Figure 2 Regional Location

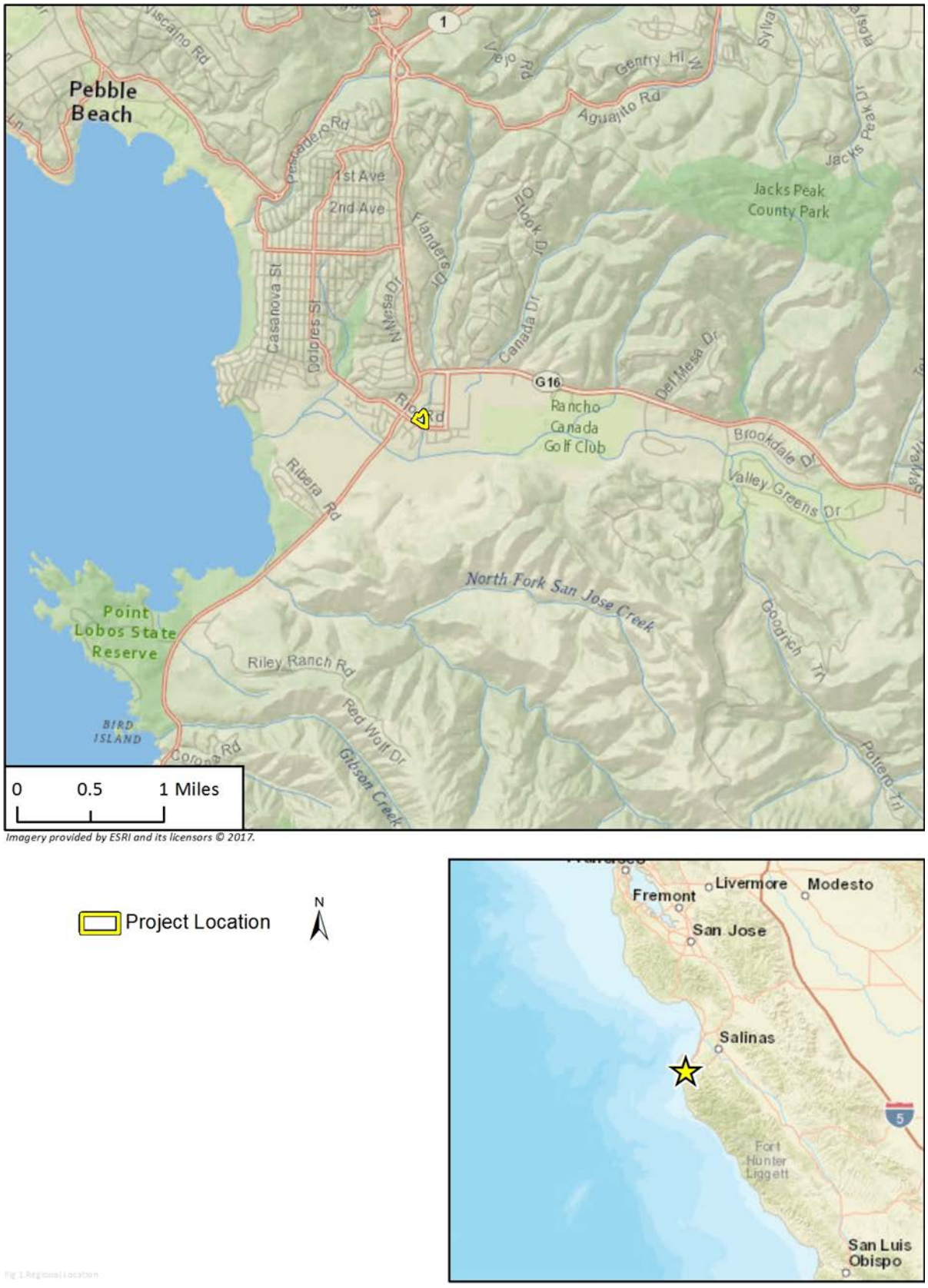


Figure 3 Project Site Location

demolished in the 1980s. The site is sparsely vegetated on southwestern half of the property and more densely vegetated on the northeast of the site. On-site trees are primarily located on the northern and eastern portion of the site and include, but are not limited to: Monterey cypress, Coast live oak, and Monterey pine. The remainder of the site, primarily in the western half, is clear of trees and other mature landscaping. Existing views of the project site are shown in Figure 4 and Figure 5. The vegetated and open portions of the site are generally divided by a partially improved driveway that connects to Rio Road at Carmel Center Place. Carmel Center Place is one of the existing primary access points to the Crossroads Shopping Center, which borders the site to the south, across Rio Road.

The project site is relatively flat and ranges in elevation from 26 feet to 30 feet above mean sea level at the highest knolls. Piles of imported dirt and debris ranging from one to six feet in height are located in the eastern half of the project site. The site is located on a flood-plain terrace on the northern banks of the Carmel River. The river is located approximately 1,000 feet south of the site. The majority of the site is within the 100-year flood zone. The site elevation is lowest in the southwest corner; however, there is no defined surface sheet-flow over the site.

Regional access to the project site is provided by Highway 1 and Carmel Valley Road. Local access to the site is provided by Rio Road and Carmel Center Place.

The existing characteristics of the project site are summarized in Table 3 and in the discussion as follows. Additional details of the current setting at the site can be found in Section 3, *Environmental Setting*, and in the individual issue area discussions in Section 4.0, *Environmental Impact Analysis*.

2.4.1 Current Land Use Designation and Zoning

The project site is located in the Carmel Valley Master Plan (CVMP) area. The existing CVMP land use designation is Commercial, and the existing zoning designation is Light Commercial, Design Control, Site Plan Review, and Residential Allocation Zoning (LC-D-S-RAZ). The purpose of the Light Commercial Zoning District (Chapter 21.18 of the Monterey County Code) is to provide a zoning district to accommodate and maintain a broad range of light commercial uses suitable for the convenience of nearby residential areas. LC Zoning District regulations list the type of commercial uses permitted within the zoning district, and depending on the type of use proposed, the type of land use permit required. In addition, a General Development Plan is required prior to the establishment of any development in the LC District that is more than 1 acre in size, contains more than one use, or includes any form of subdivision. The subject site is more than 1 acre in size, is proposed to contain more than one use, and includes a lot line adjustment. The Design Control (D) Zoning District regulates the location, size, configuration, materials, and colors of structures and fences to assure protection of the public viewshed, neighborhood character, and to assure the visual integrity. The Site Plan Review Zoning District (S) requires review of the location of the development with a required Site Plan Approval Application, as the project is located in an area of the County where development has the potential to adversely affect or be adversely affected by natural resources or site hazards. The Residential Allocation Zoning (RAZ) District limits the number of lots or units which may be created in a given period of time. No new lots or residential units are proposed. The proposed project would not require amendments to the County's General Plan or the Monterey County Code.

Figure 4 Site Photographs: Existing Project Site

A-1 LOOKING SOUTHEAST

A-2 LOOKING SOUTHWEST

A-3 LOOKING SOUTHWEST

A-4 LOOKING NORTHWEST

A-5 LOOKING NORTHEAST

A-6 LOOKING EAST

Site Key Plan
N.T.S.

Source: Perkins, Williams & Cotterill Architects, May 2016

Figure 5 Site Photographs: Existing Project Site

B - LOOKING NORTH

C - LOOKING NORTHWEST

D - LOOKING NORTH

E - LOOKING NORTHEAST

F-1 LOOKING NORTHEAST

F-2 LOOKING NORTH

Source: Perkins, Williams & Cotterill Architects, May 2016

Site Key Plan
N.T.S.

N

2.4.2 Surrounding Land Uses

The project site is bordered by the Chevron Gas Station to the west, by the Carmel Mission Inn to the north, by two-story professional offices and mixed-use professional office/residential to the east, and by Rio Road and the Crossroads Shopping Center to the south, which is anchored by a grocery store and drugstore. The site is a vacant parcel surrounded on all sides by improved land containing light commercial, visitor serving uses, and multi-family residential uses. Surrounding land uses are described in Table 3.

The Carmel River is located approximately 1,000 feet south of the site, and Carmel River Elementary School is located approximately 0.9 mile west of the site, Junipero Serra School is located 0.6 mile west of the site, and Carmel Middle School is located 0.4 mile northeast of the northernmost end of the site.

Table 3 Characteristics of the Project Site and Vicinity

Project Site		
Address	3705 Rio Road	
Assessor's Parcel Numbers	009-562-002-000 (Lot 2), 009-562-015-000 (Lot 15), and 009-562-016-000 (Lot 16)	
Lot Size	3.8 acres	
Existing Use	Undeveloped/Vacant	
Carmel Valley Master Plan Land Use Designation	Commercial	
Zoning Designation	Light Commercial, Design Control, Site Plan Review, and Residential Allocation Zoning (LC-D-S-RAZ)	
Vicinity		
Surrounding Land Uses	**North:**	Carmel Mission Inn
	South:	Crossroads Shopping Center, anchored by a grocery store and drugstore
	East:	Professional offices and mixed-use professional office/residential
	West:	Chevron Gas Station
Surrounding Land Use/ Zoning Designations	**North:**	Visitor Accommodations/Professional Offices
	South:	Planned Commercial and Visitor Accommodations/Professional Offices
	East:	Visitor Accommodations/Professional Offices and Commercial
	West:	Visitor Accommodations/Professional Offices and Planned Commercial

Source: County of Monterey, Carmel Valley Master Plan, Amended November 5, 1996; and Supplemental Policies Amended February, 2013

2.5 Project Characteristics

The project, Rio Ranch Marketplace, is a proposed 42,310-square foot retail development on a 3.8-acre undeveloped, infill site. The retail development would consist of four commercial retail buildings, including a maximum 23,000 square foot convenience market/grocery store and three smaller buildings ranging from approximately 5,000 to 8,335 square feet. The development would additionally include two commercial retail farm sheds of 250 square foot each. In total, the building footprint of all buildings would occupy 26 percent of the 164,421-square foot site. The project characteristics, including square footage of each building, are presented in Table 4. A preliminary site plan is shown in Figure 6.

The market building would house a grocery store. The remaining store buildings would house small retail shops, restaurants and cafes, and consumer-oriented professional food services. The estimated square footage for each building shown in Table 4 is preliminary and subject to change. However, it is anticipated that the market would be a maximum of 23,000 square feet. If the market is ultimately smaller than 23,000 square feet, Buildings A through C may increase in size and the tenant mix would shift. However, the gross leasable area would not exceed 42,310 square feet.

Table 4 Project Characteristics

Building	Size (SF)[1]	Floors	Maximum Height (feet)	Potential Occupant(s)
Market (grocer)	23,000	One	47.0 (tower element) 33.5 (main)	Specialty grocery store
Store A	8,335	One	28.0 (tower element) 20.0 (main)	Small retail shops, restaurants and cafes, and consumer-oriented professional services
Store B (southeast)	5,475	One	33.7 (tower element) 28.0 (main)	Small retail shops, restaurants and cafes, and consumer-oriented professional services
Store C	5,000	Partial Second	33.7 (tower element) 28.0 (main)	Small retail shops, restaurants and cafes, and consumer-oriented professional services
Farm Sheds (2)	500 (250 SF each)	n/a		Casual food and beverage service, seasonal merchants
Gross Leasable Area	**42,310**			

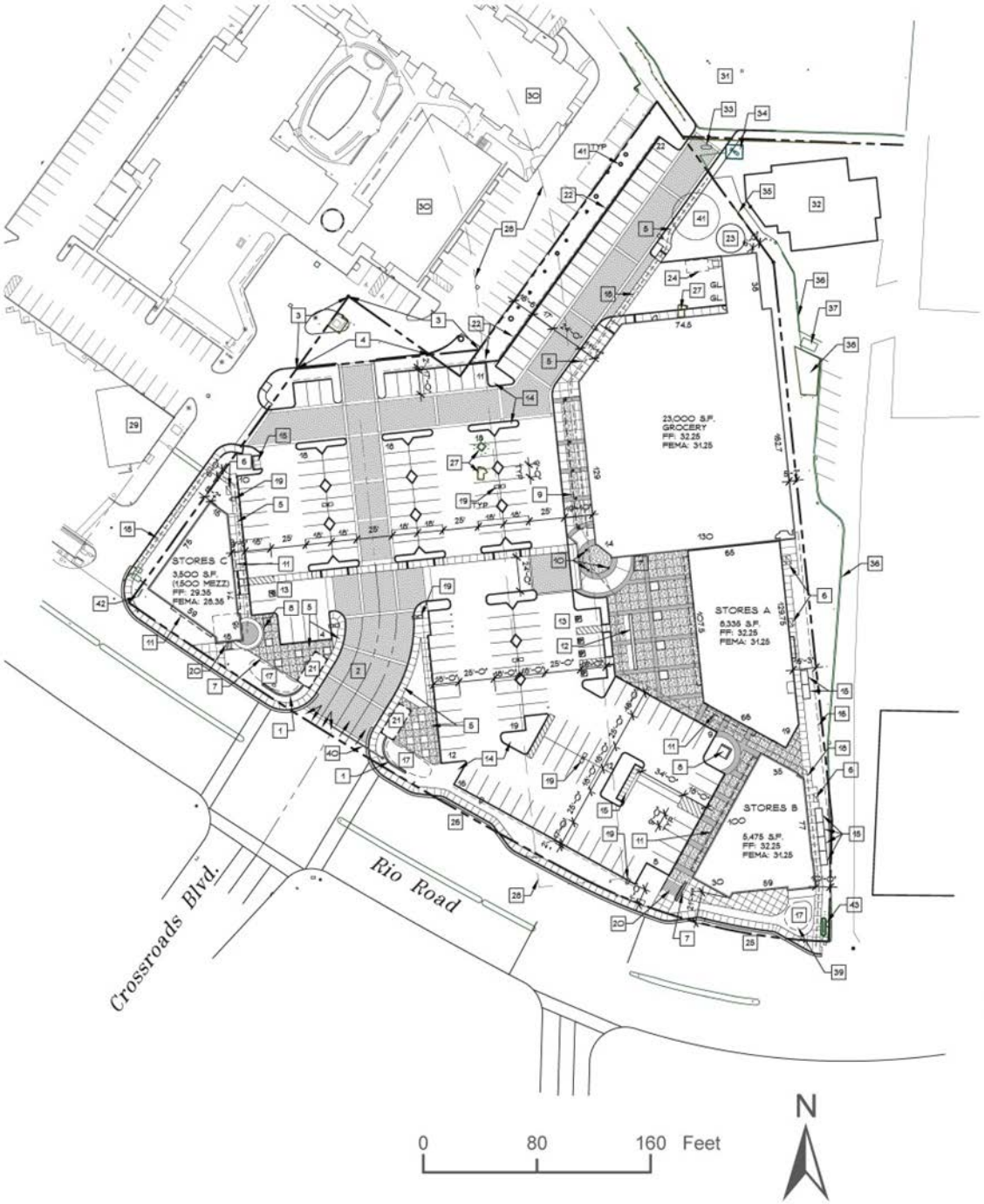
Note: On the Site Plan summary table, the 41,810 SF Gross Leasable Area does not include the two farm sheds.

[1] The breakdown per building shown herein and on the site plan (Figure 4) is preliminary and subject to change. However, the gross leasable area would not exceed 42,310 SF.

The two proposed farm sheds, which would be located on either side of the project's main entrance on Rio Road, would be open air type structures and would serve multiple and rotating uses. One of the farm sheds would house casual food and beverage service; the other would house seasonal merchants, such as pumpkin patch and Christmas trees; floral and agricultural product sales; and community and fund-raising events.

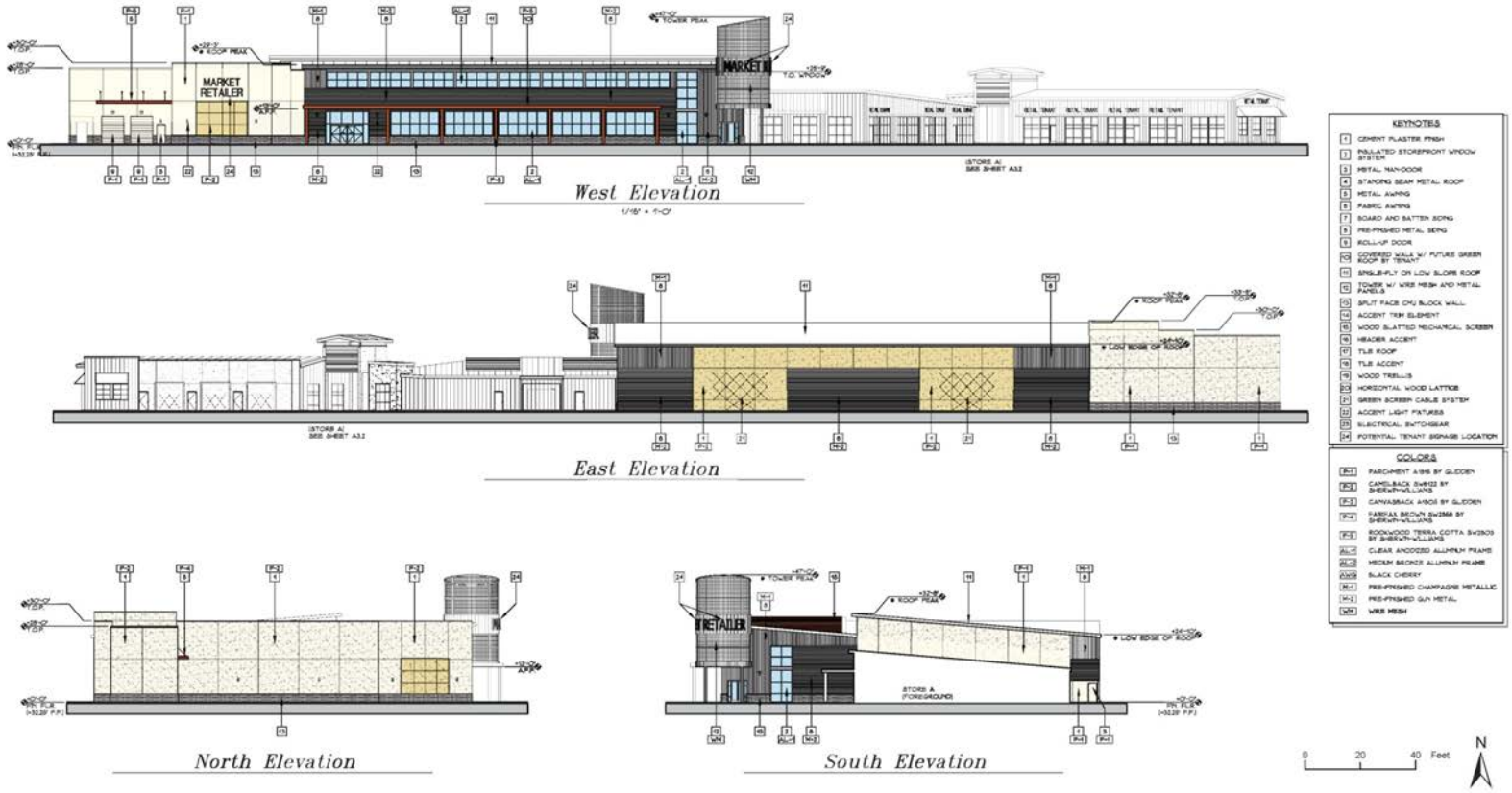
The design theme for the market and Store A building is rural agricultural-industrial architecture, intended to reflect the agricultural nature of Carmel Valley. The building facades of the market and Store A would predominantly be finished with cementer plaster and pre-finished metal siding accented with earth-tone colors, metal awnings, and a green screen cable system. The tower element, reaching 47 feet in height, is an entryway feature with the appearance of a silo, and would be finished with wire mesh and metal panels. Store A would predominantly be finished with board and batten siding with cement plaster finish and horizontal wood lattice accents, fabric awnings, and prominent store front windows. Stores B and C would be in the design theme of traditional Carmel Village Spanish revival, with facades with a cement plaster finish, prominent store front windows, and Spanish-style arched entryways and a tile roof. Accents include green screen cable systems and tile accents. The design theme for the Farm Sheds is a pole barn form. Proposed building elevations are shown in Figure 7 and Figure 8.

Figure 6 Proposed Preliminary Site Plan



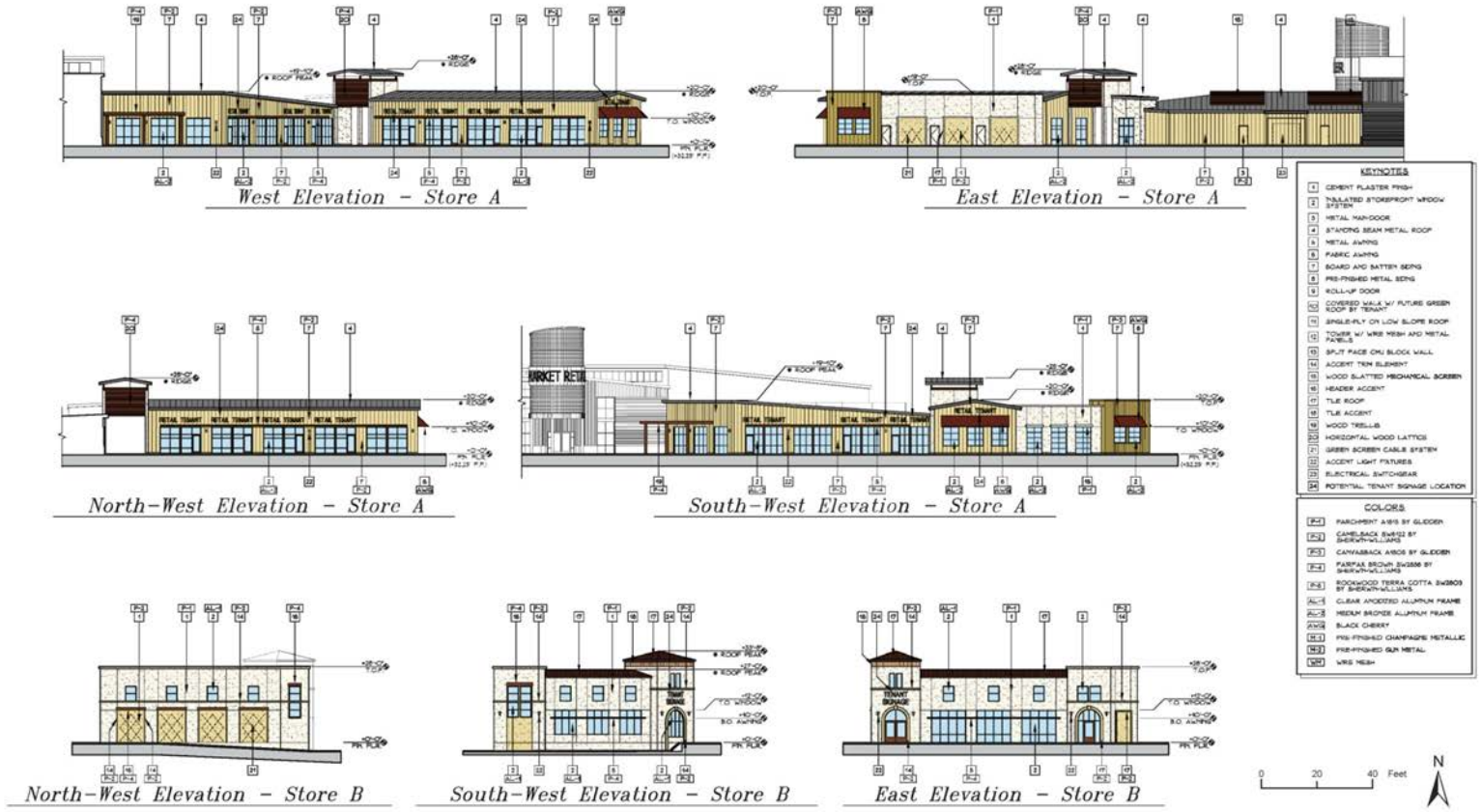
Source: Perkins, Williams & Cotterill Architects, January, 2017.

Figure 7 Preliminary Elevations: Specialty Grocery Store



Source: Perkins, Williams & Cotterill Architects, May 2016

Figure 8 Preliminary Elevations: Stores A and B



Source: Perkins, Williams & Cotterill Architects, May 2016

Landscaping would consist of a combination of California native and drought tolerant, adaptive species. There are four planting areas in the project landscaping plan, as described below and shown in Figure 10, Figure 11, Figure 12**.**

- **Bio-Retention Ponds.** Bio-retention ponds would be located around the perimeter of the site, including along with Rio Road frontage, in the southeast corner of the site, and between the parking lot and northern property boundary. The lowest zone of planting in the bio-retention ponds includes river rock and native rush species, which are able to tolerate the wet and dry conditions of the swale. The upper slopes of the swale contain fescue grasses and other native plants. Upper conditions of the swales include some taller non-native grasses. The planting in the swale has been chosen to facilitate the visible inspection of the working function of the swales.
- **Perimeter and Streetscape Planting.** Perimeter and streetscape planting, which may also include stormwater detention swales, contain plants with color and texture. Plant height either maintains visibility into the project site or softens the walls of buildings. Plants have been selected to enhance entry to the project site, and compliment entry signage.
- **Parking Islands.** Planting in parking islands is designed to maintain the function of these areas to accommodate the use by people, cars, and grocery carts. Trees are planted in wells where there is suitable space.
- **Pedestrian Seating Areas.** Providing comfortable seating spaces is important to the proper function of the project as a retail site. To achieve this effect, colorful plant palettes in these areas have been selected for the landscaping.

Landscape irrigation would be distributed through a water efficient, subsurface irrigation system. Irrigation water would be supplied from a combination of potable water and a rainwater harvesting system. The rainwater harvesting system, designed to collect roof runoff from the grocery building roof and drained to the cistern, would provide a supplemental supply of irrigation water. The landscape plan includes native and drought tolerant species to reduce water demand.

The two existing on-site wells, one located in the northern portion of the site, and the other located in the center of the site, would be abandoned voluntarily by the applicant. MCC Section 15.08.030 would require the applicant to obtain a permit from the Health Officer of the County prior to abandoning any well.

2.5.1 Lot Line Adjustment and Right-of Way Abandonment

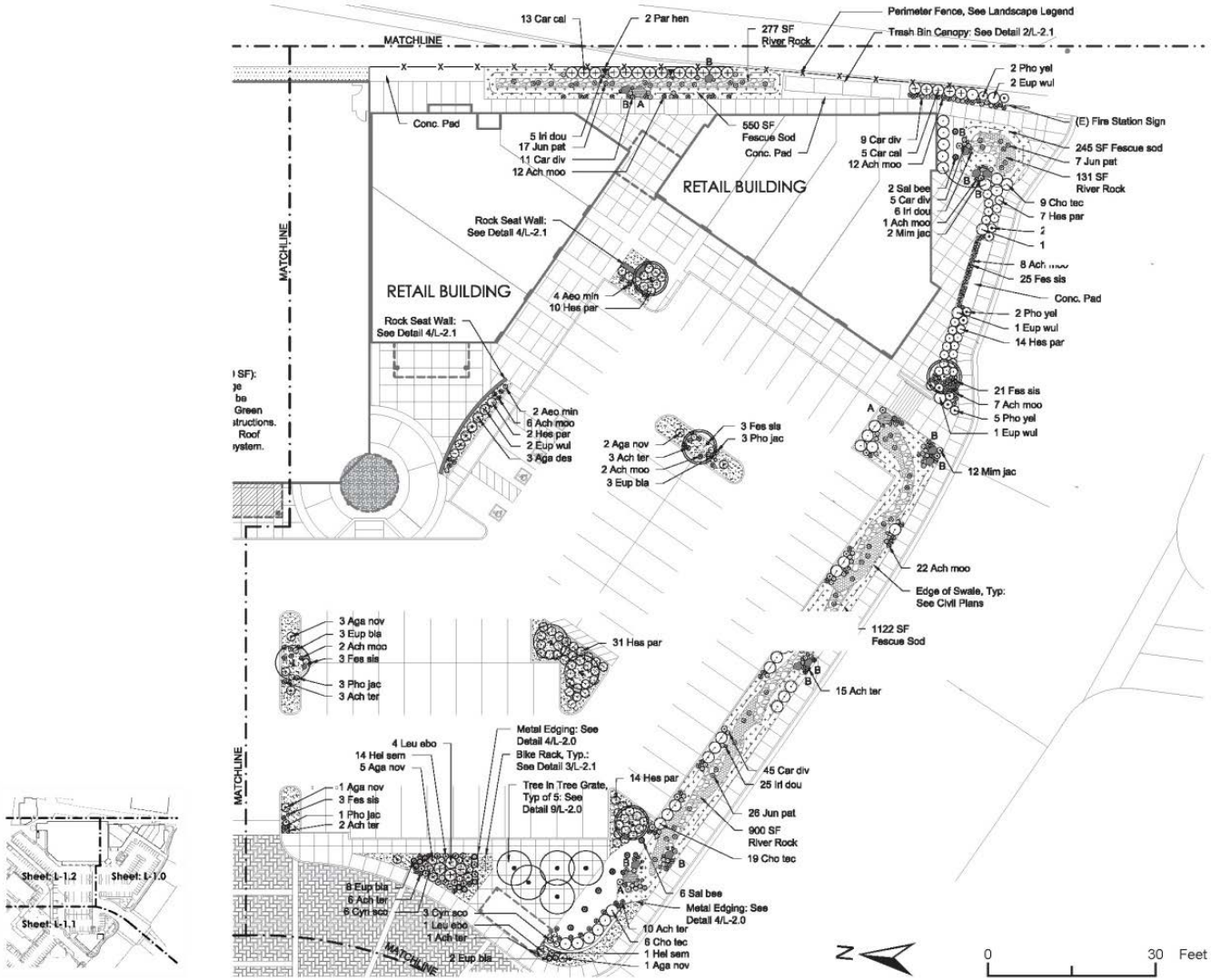
The project also includes merging three legal lots of record (APN 009-562-002-000, Lot 2; APN 009-562-015-000, Lot 15; and APN 009-562-016-000, Lot 16) into one legal lot of record; and adjusting the lot line between the new legal lot and the adjacent lot containing the Carmel Mission Inn (APN 009-562-013-000; Lot 13). The proposed lot merger and lot line adjustment are shown on Figure 9. In addition, the site includes a 60-foot right-of-way that runs north to south, bisecting the property, as shown on the Preliminary Site Plan, Figure 6. The applicant is requesting approval of abandonment of this right-of-way.

Figure 9 Proposed Lot Line Adjustment

Imagery provided by Google and its licensors © 2018.

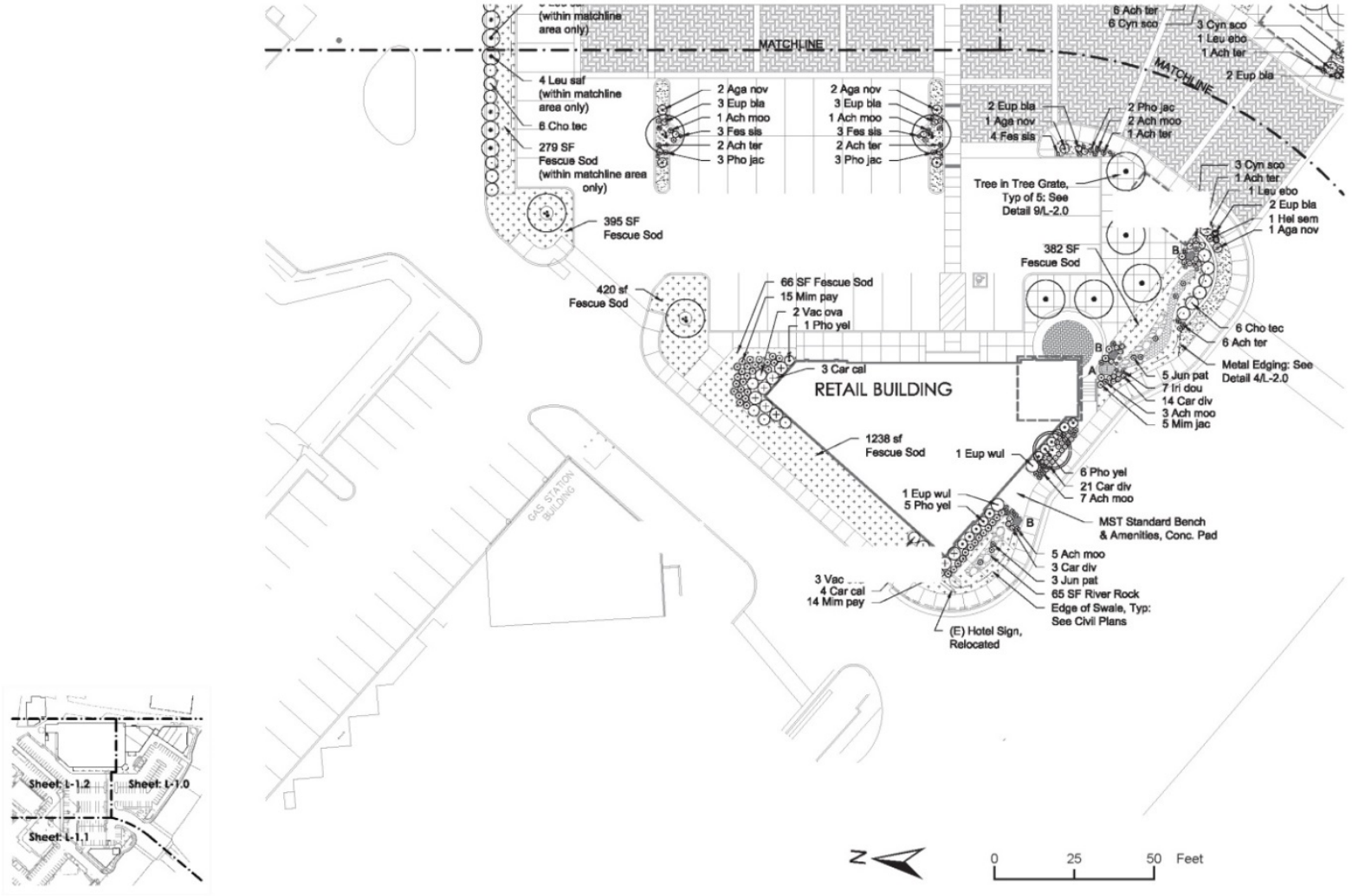
FigX Lot Line Adjustment

Figure 10 Preliminary Landscaping Plan Sheet L-1.0



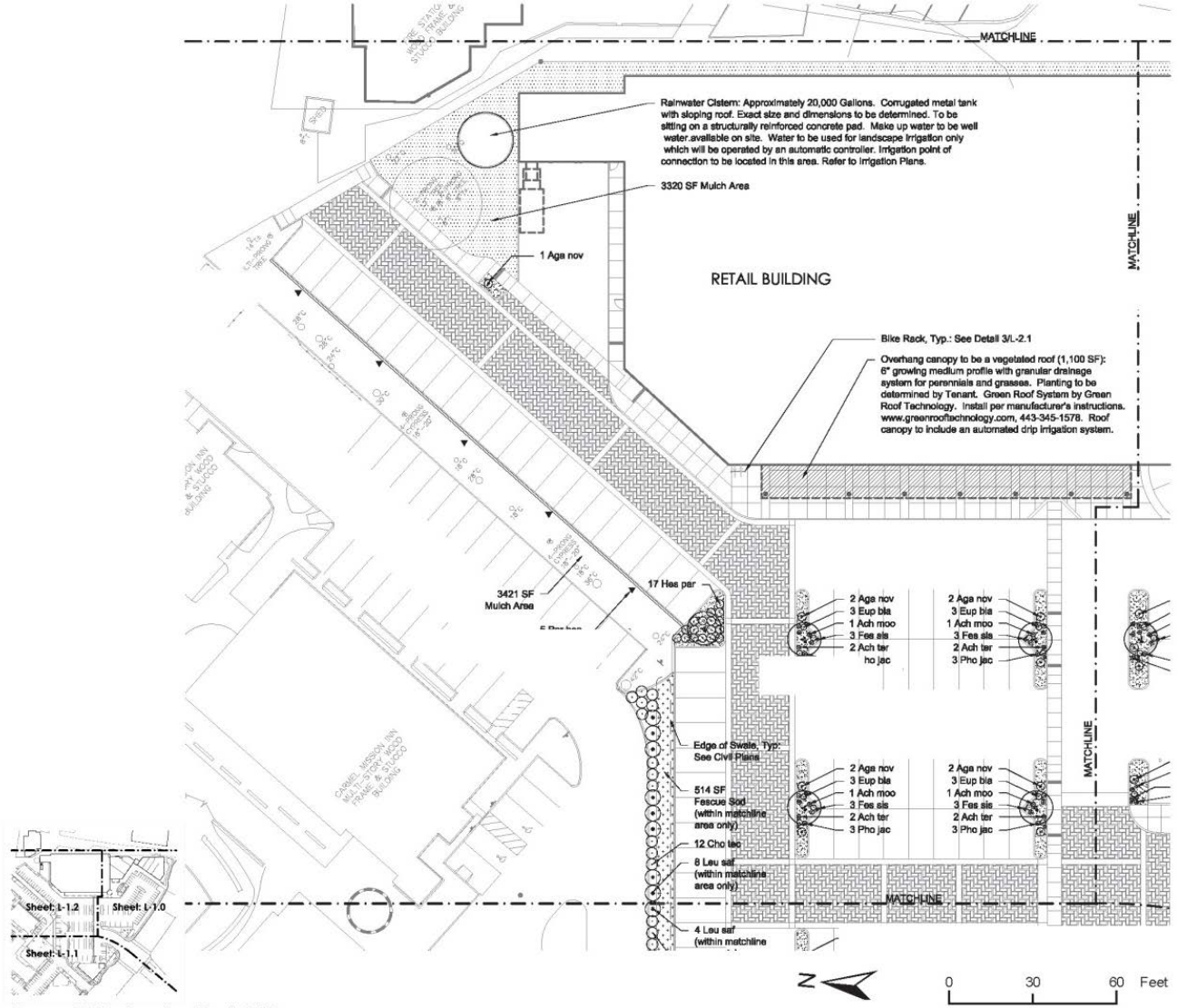
Source: C3 Engineering, March 2016

Figure 11 Preliminary Landscaping Plan: Sheet L-1.1



Source: C3 Engineering, March 2016

Figure 12 Preliminary Landscaping Plan: Sheet L-1.2



Source: C3 Engineering, March 2016

2.5.2 Site Access and Parking

Primary access to the project site would be via a reconfigured traffic-signal controlled intersection at Rio Road and Crossroads Boulevard. The intersection of Rio Road and Crossroads Boulevard is currently a three-way traffic-signal controlled T-intersection; this intersection would be expanded to a four-way intersection through the addition of the project main entrance at Crossroads Boulevard. Three secondary access points to the project would be provided to the site including:

1. On the western boundary of the project at the existing main driveway to the Carmel Mission Inn along the east side of the existing Chevron Gas Station.
2. At the north corner of the project connecting to Clocktower Place in the southwest corner of the existing Barnyard parking lot; and
3. As an extension of the main driveway aisle to the existing traffic circle near the lobby entrance of the Carmel Mission Inn.

The current access point to the project site at Rio Road and Carmel Center Place would be eliminated, reducing this four-way intersection to three-way intersection. These changes would require the following additional alterations to the section of Rio Road adjacent to the project site, which are all shown on Figure 6, Preliminary Site Plan:

- **Bus Stop Relocation.** An existing bus stop with pullout is located on the north side of Rio Road immediately west of the Crossroads Boulevard/Rio Road intersection. As the main project access would be constructed in this location, the bus stop and pullout would be relocated approximately 100 feet to the east, approximately mid-way between Crossroads Boulevard and Carmel Center Place.
- **Loading Turnout.** A turnout would be added on the north side of Rio Road near the eastern edge of the project site, east of Carmel Center Place. The purpose of the pull-out would be for loading and trash pick-up
- **Sidewalk Replacement.** The sidewalk located along the project's Rio Road frontage would be replaced.
- **ADA Compliant Improvements.** Americans with Disabilities Act (ADA) improvements along Rio Road would include an accessible bus stop, as described above; and accessible ramps in the following locations: at the main project access at Rio Road and Crossroads Boulevard; and at the Carmel Mission Inn driveway at Rio Road, which is located off-site but would provide secondary project access.

The project would provide a total of 186 on-site parking spaces, including five ADA stalls. Parking would be concentrated near the center of the site, with the three largest buildings along the eastern edge of the site and the smallest building (Store C) located in the western corner of the site. Four of the proposed ADA stalls would be located in front of proposed Store B in the eastern portion of the site; one ADA stall would be located in front of Store C in the western portion of the site. The proposed 186 spaces would provide a ratio of over four parking stalls per 1,000 square feet of building area, or over one stall per 250 square feet. Bicycle lockers for long-term bike storage would be provided behind proposed Stores A and B. Bicycle racks for short-term storage would be provided in several locations throughout the site.

2.5.3 Utilities

2.5.3.1 Water Supply

The project would be served by California-American Water Company (Cal Am). The project would connect to an existing Cal Am water supply line beneath Rio Road. The connection would be located near the western edge of the project site, behind proposed Store C, as shown on Figure 6. Additional domestic water service lines would be located beneath the proposed parking area in the easternmost portion of the site, with a water meter located beneath the sidewalk adjacent to Rio Road.

Based on projected uses, the project would require 4.49 acre feet of allocated water per year (AFY). This requirement is proposed to be met through three sources:

- The fee-title owner of the land underlying the project, Carmel Properties Company, has a credit from adjacent property holdings of 1.519 AFY that would be applied to the project site.
- The adjacent hotel, Carmel Mission Inn, is currently under renovation, including water saving features. These features would generate additional water credits. These credits are proposed to be applied to the project site, as the land underlying the Inn is also owned by Carmel Properties Company.
- Any additional water credits needed to make up the balance of the demand for the operation of the project are proposed to be acquired from the Malpaso Water Company, which has recently received approval to sell 80 acre-feet of water to commercial and residential users in Carmel and Carmel Valley.

Water supply is further described and assessed in Section 4.6, *Hydrology and Water Quality.*

2.5.3.2 Sewer

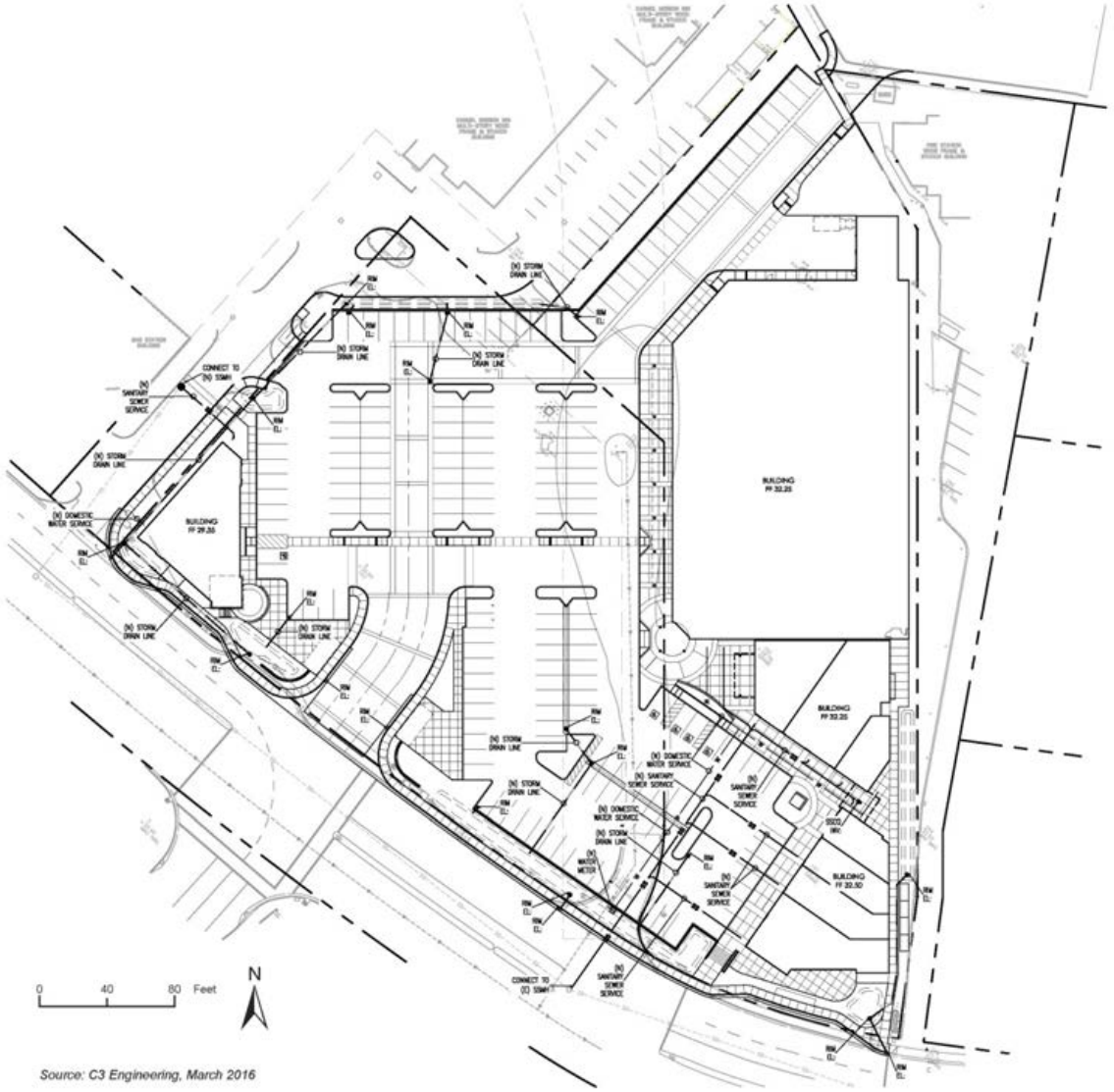
Sewer services would be provided via connection to the Carmel Wastewater District (CAWD). Wastewater generated by the proposed project would be collected and conveyed through a conventional gravity system of proposed four- to six-inch sanitary sewer pipes located within the proposed parking areas, as shown in Figure 13. The wastewater collected on-site would be conveyed through a six- to eight-inch diameter pipe extending approximately 45 feet in the public right-of-way to an existing 24-inch CAWD sanitary sewer main located beneath Rio Road.

The CAWD confirmed in an April 20, 2016 will-serve letter that service could be provided to the proposed project. The site is within the CAWD service area.

2.5.3.3 Stormwater Management

Most n-site stormwater runoff would be detained or filtered by bio-retention ponds located around the perimeter of the site, including along with Rio Road frontage, in the southeast corner of the site, and between the parking lot and northern property boundary. However, runoff from the grocery store building would be collected through a rainwater harvesting system and directed to a cistern, providing a supplemental supply of irrigation water for the site. The remainder of on-site runoff would be detained or filtered by bio-retention ponds located around the perimeter of the site, including along with Rio Road frontage, in the southeast corner of the site, and between the parking lot and northern property boundary. Runoff from impervious surfaces would surface drain or be routed by underground piping to the bio-retention ponds where it would be treated and retained.

Figure 13 Utility Plan



The ponds would be sized to treat and retain runoff from the 95th percentile storm, in accordance with the Monterey Regional Stormwater Management Program. The project applicant would be required to prepare and submit a Preliminary Stormwater Control Report (SWCP), including a Site Design and Runoff Reduction Checklist, as part of building permit approval.

2.5.3.4 Electricity and Natural Gas

Electricity and natural gas to the site would be provided by the Pacific Gas and Electric Company.

2.5.4 Construction and Grading

Construction would begin with vegetation removal and site grading. The project would require tree removal, including the removal of thirty-five existing on-site trees, including Monterey cypress, Coast live oak, and Monterey pine trees. The tree removal plan is shown in Figure 16. However, some trees would be retained. The existing shed in the northern portion of the site would be demolished. An existing above-ground propane tank located immediately west of the existing shed would be relocated approximately ten feet to the east.

The project would require approximately 355 cubic yards (cy) of cut and approximately 14,006 cy of fill for a net of 13,651 cy of imported fill to raise the floor level of the proposed buildings out of the mapped flood plain. A grading and drainage plan is shown in Figure 14 and Figure 15.

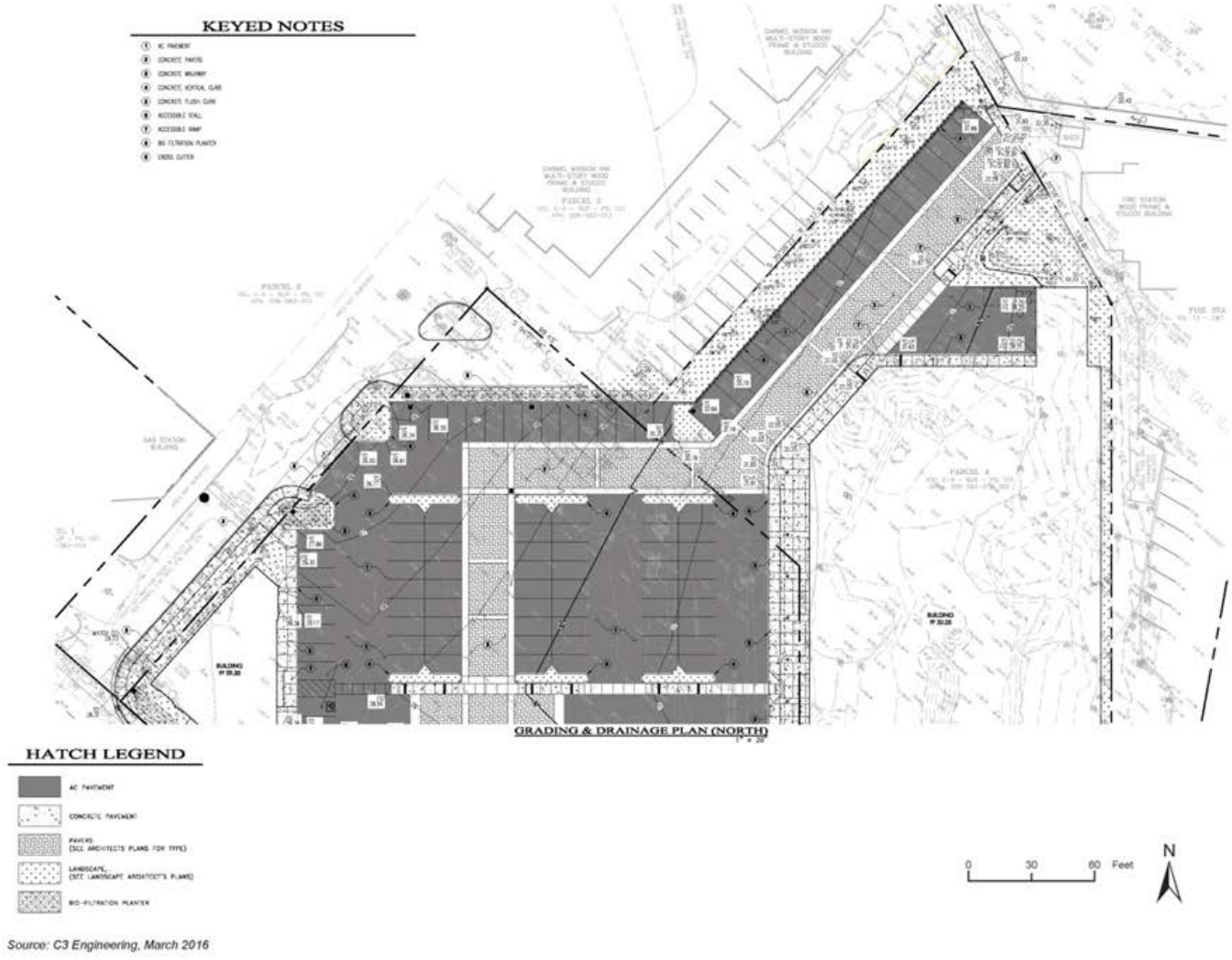
The project may be constructed in a single phase subject to market conditions. For the purpose of this EIR, it is assumed that construction would be initiated within six months of project approval and that construction would be completed within approximately nine months of construction commencement, or 15 months after project approval.

2.6 Project Objectives

The applicant's objectives of the proposed Rio Rancho Marketplace project are:

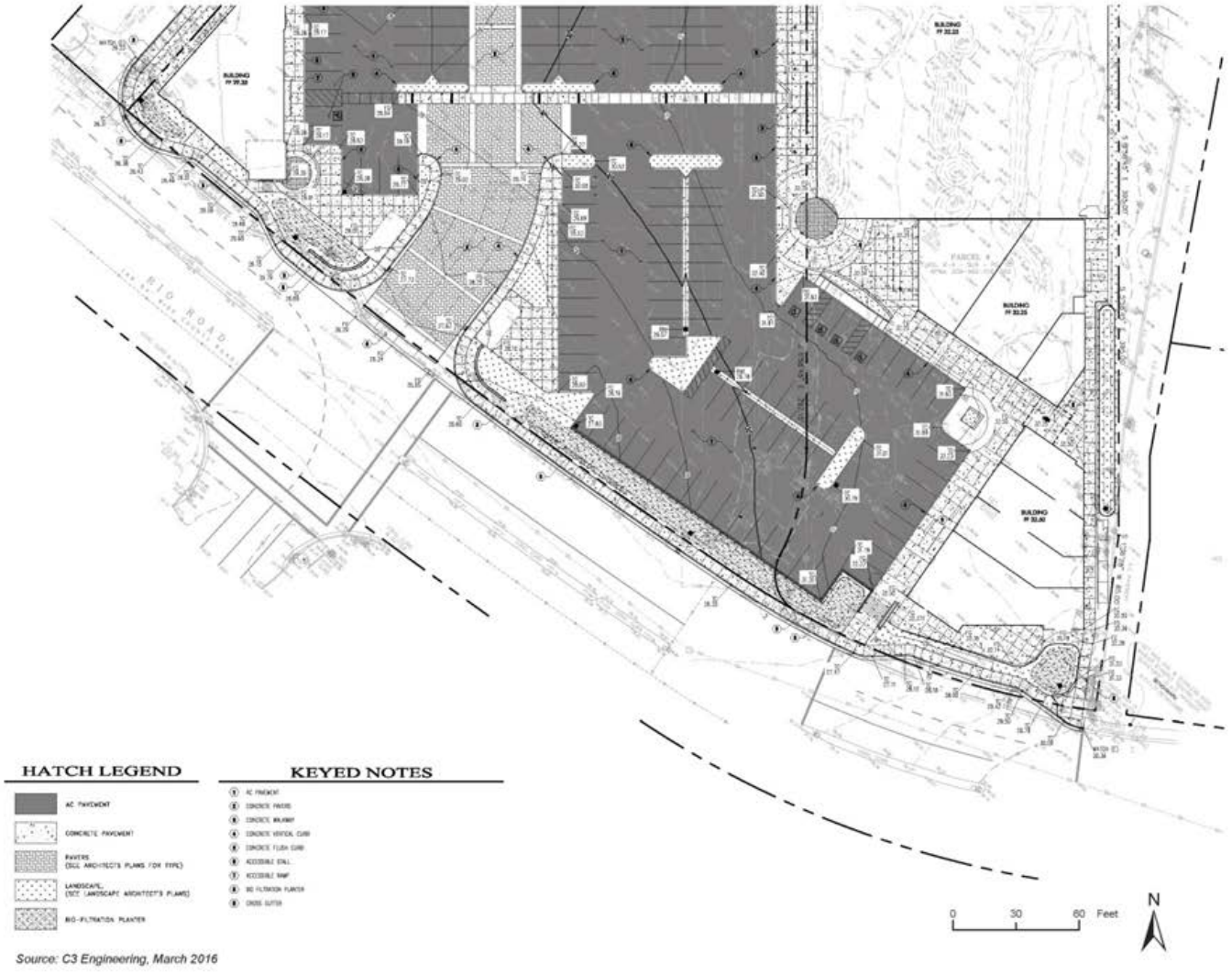
1. To develop a new retail center anchored by a specialty grocery store and complementary commercial uses to provide the local trade area with shopping alternatives in a high-quality shopping environment;
2. To divert to the project shopping trips from Carmel Village, Carmel Valley, Carmel Highlands and Big Sur Coast currently destined for Monterey and Pacific Grove for shopping at Whole Foods, Trader Joe's and other specialty grocers;
3. To contribute to the local economy through new capital investment, the creation of new employment opportunities, and the expansion of the County's tax revenues;
4. To develop full-service retail uses near regional roadway and highway facilities, and near other commercial uses, to minimize travel lengths and utilize existing infrastructure to the maximum extent possible;
5. To implement the County of Monterey General Plan;
6. Implement a high-quality architectural design that improves the overall aesthetics of the project site and surrounding area.

Figure 14 Grading and Drainage Plan: North



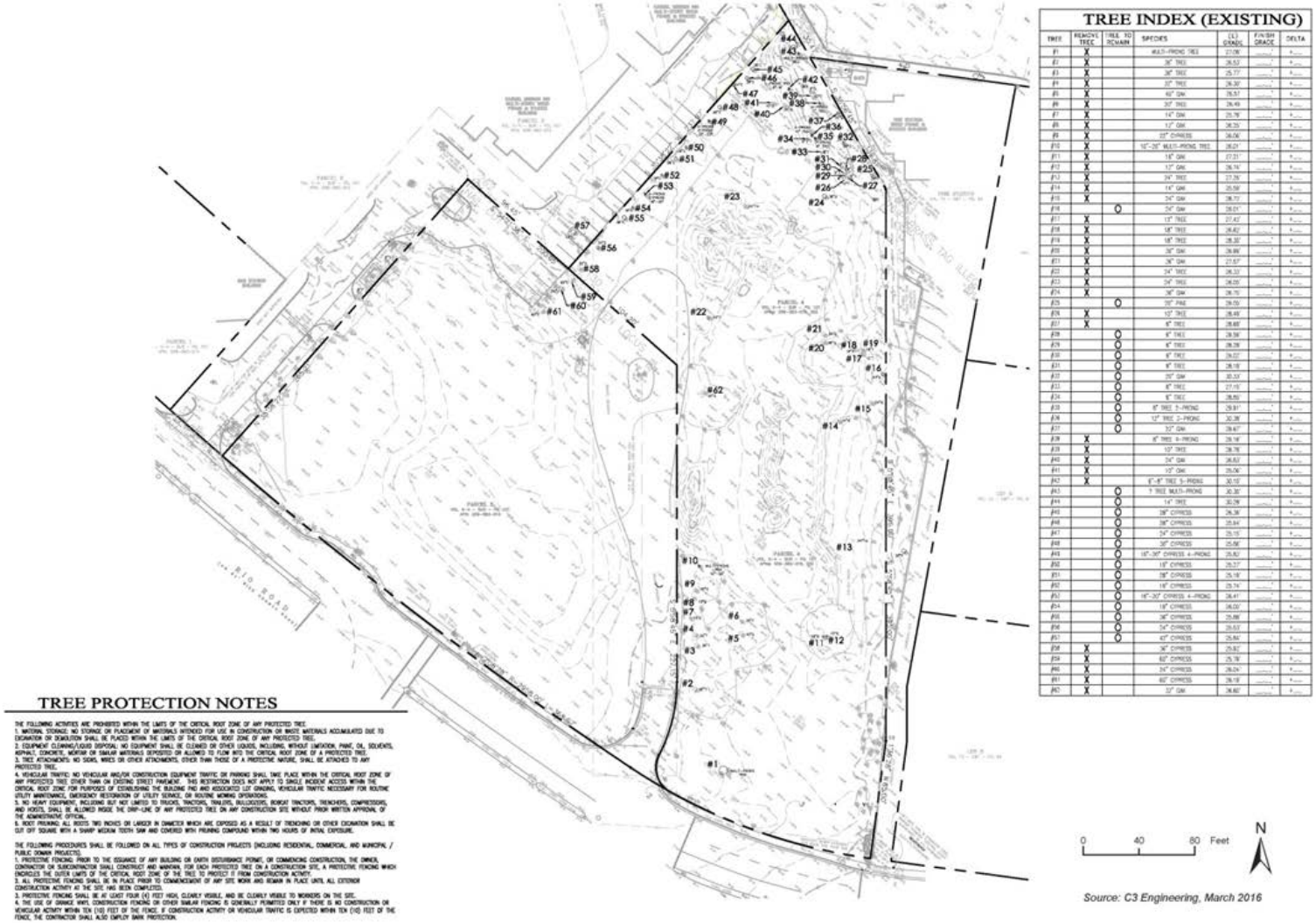
Source: C3 Engineering, March 2016

Figure 15 Grading and Drainage Plan: South



Source: C3 Engineering, March 2016

Figure 16 Tree Plan



2.7 Required Approvals

The proposed project will require the following discretionary permits from the County of Monterey.

- Certification of Final EIR
- Approval of a Combined Development Permit and General Development Plan consisting of:
  - Administrative Permit to allow the development of a maximum 23,000-square feet grocery store/convenience market;
  - Use Permit to allow the development of three separate multi-tenant buildings ranging in size from 250 square feet to 8,335 square feet;
  - Lot Line Adjustment;
  - Design Approval;
  - Use Permit to allow removal of 35 trees.;
  - Monterey County Health Department Water Well Permit to allow well abandonment;
  - MPWMD Water Permit

3 Environmental Setting

This section provides a general overview of the environmental setting for the proposed project. More detailed descriptions of the environmental setting for each environmental issue area can be found in Section 4, *Environmental Impact Analysis*.

3.1 Regional Setting

The Rio Ranch Marketplace project site is located in northwestern Monterey County, in the westernmost portion of the Carmel Valley planning area known as the Mouth of the Valley. Figure 2 in Section 2, *Project Description*, shows the location of the project site in the region. Figure 3 shows the location of the project site in relationship to the surrounding neighborhood.

The Carmel Valley is bounded by the Santa Lucia Mountains to the southwest and the Sierra de Salinas Mountains to the northeast. These two mountain ranges are located within the Pacific Coast Ranges of California, which are characterized by a series of northwest trending mountains and valleys. The Carmel Valley consists of a relatively flat valley floor drained by the Carmel River. Land on both sides of the valley includes open space and preserved areas, such as the Santa Lucia Preserve, Palo Corona Ranch Regional Park, Thomas Open Space, Garland Ranch Regional Park, Jacks Peak County Park, and Hatton Canyon State Park. As these areas remain largely undeveloped, they tend to support a rich mosaic of oak forests, chaparral scrublands, grasslands, and riparian habitats, and are generally characterized by rolling hills and broad northwest-southeast trending valley.

The project site is located in the Carmel River Hydrologic Unit, a 255 square miles, southeast-northwest trending watershed in the coast ranges of central Monterey County. The Carmel River Watershed drains the Carmel Valley northwestward and feeds into the Carmel River, which meanders for 36 miles in a northwesterly direction merging with seven major stream tributaries until it flows into the Pacific Ocean at Carmel Bay (MPWMD 2014). The terminus of the Carmel River with the Pacific Ocean is approximately 0.7 miles northwest of the project site, just south of the City of Carmel-by-the-Sea.

The developed landscapes of the Valley are comprised of rural residential and single family development, various commercial uses that support the Valley's residents and visitors, and small-scale seasonal agriculture. Recreational land uses, including several golf and tennis facilities, occur throughout the valley at a variety of locations.

3.2 Project Site Setting

The project site consists of 3.8 acres and is located in unincorporated Monterey County, California, approximately 2,600 feet southeast of the City of Carmel-by-the-Sea city limits. The site is located on the north side of Rio Road approximately 375 feet southeast of Highway 1, approximately 0.3 mile south of Carmel Valley Road, and approximately 1,000 feet north of the Carmel River. The project site is comprised of three legal parcels: Assessor's Parcel Numbers [APN] 009-562-002-000, 009-562-015-000, and 009-562-016-000.

The project site is currently undeveloped except for a paved driveway entrance, a gravel driveway, two wells, utility connections, a section of the Carmel Mission Inn parking lot, and an existing above-ground propane tank and shed building located in the northern portion of the site. The site was previously developed with an apartment complex that was demolished in the 1980s. The site contains predominantly non-native annual grassland and Mixed Woodland. Non-native annual grassland species cover approximately 2.2 acres of the site, including Italian rye grass (*Festuca perennis*), wild oats (*Avena* sp.), Kikuyu grass (*Pennisetum clandestinum*), and foxtail barley (*Hordeum murinum*). Herbaceous plants (i.e., forbs) such as mustards (*Brassica* spp.), wild radish (*Raphanus sativus*), and fennel (*Foeniculum vulgare*), as well as coyote brush (*Baccharis pilularis*). Mixed Woodland species, a mixture of native and non-native species, cover approximately 0.8 acre of the site, including coast live oak (*Quercus agrifolia*), ornamental redwoods (*Sequoia sempervirents*), Hollywood juniper (*Juniperus chinesis*), willow (*Salix* sp.), English ivy (*Hedera helix*), and California buckeye (*Aesculus californica*). The remainder of the site is disturbed with exposed soil and gravel. The on-site vegetation communities are further described in Section 4.2*, Biological Resources.*

The project site is relatively flat and ranges in elevation from 25 feet to 30 feet above mean sea level (amsl) at the highest knolls. Spoil piles reaching from one to six feet in height are located in the eastern half of the project site. The site is located upland of the Carmel River. The majority of the site is within the 100-year flood zone, Zone AE (FEMA 2017). A very small area in the northernmost portion of the project site is located in the 500-year floodplain. The site elevation is lowest in the southwest corner; however, there is no defined surface sheet-flow over the site.

As shown in Figure 3 in Section 2, *Project Description,* the project site is bordered by a Chevron Gas Station to the west, the Carmel Mission Inn to the north, two-story professional offices and mixed-use professional office/residential to the east, and Rio Road and the Crossroads Shopping Center to the south, which is anchored by a grocery store and drugstore. The Carmel River is located approximately 1,000 feet south of the site, and Carmel River Elementary School is located approximately 0.9 mile west of the site, Junipero Serra School is located 0.6 mile west of the site, and Carmel Middle School is located 0.4 mile northeast of the northernmost end of the site.

3.3 Cumulative Development

The *CEQA Guidelines* require the analysis of the cumulative effects of a project in combination with other past, present and reasonably foreseeable future development in the area. CEQA defines “cumulative impacts” as two or more individual events that, when considered together, are considerable or will compound other environmental impacts. Cumulative impacts are the changes in the environment that result from the incremental impact of development of the proposed project and other nearby projects. For example, traffic impacts of two nearby projects may be insignificant when analyzed separately, but could have a significant impact when analyzed together. Section 15130 of the *CEQA Guidelines* prescribes two methods for analyzing cumulative impacts: (1) use of a list of past, present, and reasonably foreseeable future projects producing related or cumulative impacts; or (2) use of a summary of projections contained in an adopted general plan or related planning document. This EIR uses the list approach to provide a tangible understanding and context for analyzing the potential cumulative effects of a project. General plans and other planning documents were used as additional reference points in establishing the cumulative scenario for the analysis.

Past, present and reasonably foreseeable future projects that could produce related or cumulative impacts are listed in Table 5, and include projects in Carmel Valley. The table indicates the project name and project type, as well as its location and status. Collectively, these projects represent known and anticipated activities that may occur in the project vicinity that have the potential to produce related or cumulative impacts on the environment.

Table 5 Cumulative Projects List

Project Name	Project Type	Location	Status
Approved Projects			
Bay Laurel LLC (PLN020398)	16 additional hotel units at the existing 57-unit Bernardus Lodge	415 Carmel Valley Road, Carmel Valley; 3.9 miles east of the project site	Approved but not yet constructed
September Ranch Subdivision (PLN050001 and PLN110173)	95 residential lots including 15 inclusionary and 7 deed-restricted workforce housing lots; 50-stable equestrian center	Approximately 2.5 miles east of Highway 1 on the north side of Carmel Valley Road, between Canada Way and Valley Greens Drive; 2.1 miles east of the project site	Approved but not yet constructed
Heritage Development (PLN060603)	Subdivision of three lots into four lots	27050, 27070, and 27080 Rancho San Carlos Road, Carmel Valley; 1.8 miles southeast of the project site	Approved but not yet constructed
Rancho Canada Village (PLN040061)	281 mixed use residential units consisting of: 182 single family, 64 townhomes, and 35 condominiums/flats	4860 Carmel Valley Road, Carmel Valley; 480 feet east of the project site	Approved but not constructed; currently in litigation
Pending Projects			
Mary Delfino Trust (PLN060276)	18 single family lots and six multi-family units	Former Carmel Valley Airport site (APNs 187-521-014-000, 187-521-015-000, 187-512-016-000, 187-512-017-000, 187-512-018-000, and 187-502-001-000); 10.1 miles southeast of the project site	Deemed complete on December 10, 2009. Not yet approved

Source: Monterey County RMA – Planning Department, Personal Communication, September 2017

The area within which a cumulative effect can occur varies by resource. For example, air quality impacts tend to disperse over a large area, while soils hazards impacts are typically more localized. For this reason, the geographic scope for the analysis of cumulative impacts must be identified for each resource area.

The analysis of cumulative effects considers a number of variables including spatial limits, time limits, and the characteristics of the resource being evaluated. The geographic scope of each analysis is based on the topography surrounding the proposed project and the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope of cumulative effects will often extend beyond the scope of the direct effects, but not beyond the scope of the direct and indirect effects of the project. The geographic extent and cumulative impact analysis for each individual issue area is included in the respective discussions in Sections 4.1 through 4.8 of this EIR.

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4 Environmental Impact Analysis

This section discusses the possible environmental effects of the Rio Ranch Marketplace Project for the specific issue areas that were identified through the scoping process as having the potential to experience significant effects. "Significant effect" is defined by the *CEQA Guidelines* §15382 as:

> "…a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment, but may be considered in determining whether the physical change is significant."

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

- **Significant and Unavoidable**. An impact that cannot be reduced to below the threshold level given reasonably available and feasible Mitigation Measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the CEQA Guidelines.
- **Less than Significant with Mitigation Incorporated**. An impact that can be reduced to below the threshold level given reasonably available and feasible Mitigation Measures. Such an impact requires findings under §15091 of the CEQA Guidelines.
- **Less than Significant**. An impact that may be adverse, but does not exceed the threshold levels and does not require Mitigation Measures. However, Mitigation Measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact.** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Following each environmental impact discussion is a list of Mitigation Measures (if required) and the residual effects or level of significance remaining after implementation of the measure(s). In cases where the Mitigation Measure for an impact could have a significant environmental impact in another issue area, this impact is discussed and evaluated as a secondary impact. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other planned and pending developments in the area listed in Section 3.0, *Environmental Setting*.

The Executive Summary of this EIR summarizes all impacts and Mitigation Measures that apply to the proposed project.

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4.1 Air Quality

4.1.1 Summary

Table 6 summarizes the identified environmental impacts, proposed Mitigation Measures, and residual impacts on the proposed project with regard to air quality. Additional details are provided in Section 4.1.2 (Impact Analysis).

Table 6 Impact and Mitigation Summary: Air Quality

Impact	Mitigation Measures	Residual Impact
Impact AQ-1. Construction and operation of the proposed project would not generate air pollutants in quantities that exceed MBARD significance thresholds. Therefore, the proposed project would not violate, or contribute substantially to the violation of an air quality standard. This impact would be less than significant.	As the impact would be less than significant, no mitigation is required. However, the following measures are *recommended* to ensure project consistency with applicable General Plan policies and to further minimize the less than significant air quality impacts from construction activities. **AQ-1(a) Measures to Reduce Fugitive Dust** ▪ Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure. ▪ Prohibit all grading activities during periods of high wind (over 15 mph). ▪ Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days). ▪ Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydro seed area. ▪ Haul trucks shall maintain at least 2'0" of freeboard. ▪ Cover all trucks hauling dirt, sand, or loose materials. ▪ Plant tree windbreaks on the windward perimeter of construction projects if adjacent to open land. ▪ Plant vegetative ground cover in disturbed areas as soon as possible. ▪ Cover inactive storage piles. ▪ Install wheel washers at the entrance to construction sites for all exiting trucks. ▪ Pave all roads on construction sites. ▪ Sweep streets if visible soil material is carried out from the construction site. ▪ Post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the Monterey Bay 8-3 Unified Air Pollution Control District shall be visible to ensure compliance with Rule 402 (Nuisance). ▪ Limit the area under construction at any one time. **AQ-1(b) Standard Mitigation for Construction Equipment** ▪ Maintain all construction equipment in proper	Impacts would be less than significant.

Impact	Mitigation Measures	Residual Impact
	condition according to manufacturer's specifications ▪ Fuel all off-road and portable diesel powered equipment with ARB-certified motor vehicle diesel fuel (non-taxed version suitable for use off-road) ▪ Use diesel construction equipment meeting ARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State off-Road Regulation ▪ Use on-road heavy-duty trucks that meet the ARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines and comply with the State On-Road Regulation; construction or trucking companies with fleets that that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NOx exempt area fleets) may be eligible by proving alternative compliance ▪ All on- and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5 minute idling limit ▪ Prohibit diesel idling within 1,000 feet of sensitive receptors ▪ Prohibit staging and queuing areas within 1,000 feet of sensitive receptors ▪ Electrify equipment when feasible ▪ Substitute gasoline-powered in place of diesel-powered equipment, where feasible ▪ Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel. **Monitoring Action for AQ-1(a) and (b):** The project applicant shall require construction contractors to incorporate the above standard Mitigation Measures, as applicable, to reduce PM, ROG, and NO_X emissions from construction activities. Mitigation Measures shall be listed on project construction plans and the project proponent shall perform periodic site inspections during construction to ensure that Mitigation Measures are being implemented.	
Impact AQ-2. Operation of the proposed project would not generate PM_{10} emissions in quantities exceeding MBARD's significance thresholds and the project would be consistent with the AQMP. Therefore, the project would not result in a cumulatively considerable net increase in PM_{10} or ozone.	No mitigation is required.	Impacts would be less than significant.

Impact	Mitigation Measures	Residual Impact
Impact AQ-3. The project would not generate volumes of traffic that would result in a violation of CO ambient air quality standards.	No mitigation is required.	Impacts would be less than significant.
Impact AQ-4. The project would not generate substantial levels of diesel exhaust during construction. Therefore, the project would not expose sensitive receptors to substantial concentrations of TACs.	No mitigation is required.	Impacts would be less than significant.
Impact AQ-5. The proposed project would not create objectionable odors that would affect neighboring properties. Impacts related to odors would be less than significant.	No mitigation is required.	Impacts would be less than significant.

4.1.2 Setting

a. Climate and Topography

The project site is located within the North Central Coast Air Basin (NCCAB), which includes Monterey, San Benito, and Santa Cruz counties. The NCCAB includes an area of approximately 5,159 square miles along the central coast of California. The project site is located near the coast in the central portion of the air basin. The Monterey Bay Air Resources District (MBARD) is responsible for local control and monitoring of criteria air pollutants throughout the NCCAB.

Climate, or the average weather condition, affects air quality in several ways. Wind patterns can remove or add air pollutants emitted by stationary or mobile sources. Inversion, a condition where warm air traps cooler air underneath it, can hold pollutants near the ground by limited upward mixing or dilution. Topography also plays a part, as valleys often trap emissions by limiting lateral dispersion.

Winds in the San Francisco Bay Area Air Basin (SFBAAB) often transport pollutants into the NCCAB, where surface winds move the pollutants to the eastern portion of the NCCAB. The transport of pollutants from SFBAAB greatly influences pollutant levels in the NCCAB. Assessments from 1994 and 1995 indicate that 50 percent of NCCAB exceedances are the result of the transport of emissions from the SFBAAB (MBUAPCD 2013).

Temperatures in the area range from the mid-40s to the low 70s (Fahrenheit) and precipitation averages approximately 19.73 inches per year (1906-2014) (WRCC 2016). August, September, and October are typically the warmest months of the year.

b. Air Pollutants of Primary Concern

The State and federal Clean Air Acts mandate the control and reduction of certain air pollutants. Under these Acts, the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established ambient air quality standards for certain “criteria”

pollutants. Ambient air pollutant concentrations are affected by the rates and distributions of corresponding air pollutant emissions, as well as by the climactic and topographic influences discussed above. The primary determinant of concentrations of non-reactive pollutants, such as carbon monoxide (CO) and particulate matter (PM_{10}), is proximity to major sources. Ambient CO levels, in particular, usually closely follow the spatial and temporal distributions of vehicular traffic. A discussion of primary criteria pollutants is provided below.

Ozone

Ozone is a colorless gas with a pungent odor. Most ozone in the atmosphere is formed as a result of the interaction of ultraviolet light, volatile organic compounds (VOC), and oxides of nitrogen (NO_x). VOCs are typically composed of non-methane hydrocarbons. NO_x is made of different chemical combinations of nitrogen and oxygen, mainly nitric oxide (NO) and nitrogen dioxide (NO_2). High levels of ozone tend to exist only while high VOC and NO_x levels are present to sustain the ozone formation process. Once the precursors have been depleted, ozone levels rapidly decline. Because these reactions occur on a regional rather than local scale, ozone is considered a regional pollutant.

Carbon Monoxide

Carbon monoxide (CO) is an odorless, colorless, gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO causes a number of health problems including fatigue, headache, confusion, and dizziness. The incomplete combustion of petroleum fuels in on-road vehicles and at power plants is a major source of CO. CO is also produced during the winter from wood stoves and fireplaces. CO tends to dissipate rapidly into the atmosphere; consequently, violations of the State CO standard are generally associated with the major roadway intersections during peak hour traffic conditions.

Localized CO “hotspots” can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the federal Ambient Air Quality Standards (AAQS) of 35.0 parts per million (ppm) or the State AAQS of 20.0 ppm.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. Combustion produces nitric oxide (NO), which reacts rapidly to form NO_2, creating a mixture of NO and NO_2 commonly called NO_x. NO_2 is an acute irritant. A relationship between NO_2 and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 ppm may occur. NO_2 absorbs blue light and causes a reddish brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of PM_{10} and acid rain.

Particulate Matter

Suspended particulate matter (airborne dust or fugitive dust) consists of particles small enough to remain suspended in the air for long periods. Fine particulate matter refers to particles small enough to be inhaled, pass through the respiratory system, and lodge in the lungs, with resultant health effects. Particulate matter can include materials such as sulfates and nitrates, which are particularly damaging to the lungs. Health-effect studies resulting in revision of the Total Suspended Particulate (TSP) standard in 1987 focus on particulates that are small enough to be considered “inhalable,” i.e. 10 microns or less in size (PM_{10}). PM_{10} arises from sources such as road dust, diesel

soot, combustion products, construction operations, and dust storms. PM_{10} scatters light and significantly reduces visibility. In addition, these particulates penetrate the lungs and can potentially damage the respiratory tract. On June 19, 2003, CARB adopted amendments to the statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (SB 25).

In July of 1997, a revision of the federal standard added criteria for $PM_{2.5}$, reflecting recent studies that suggest that particulates less than 2.5 microns in diameter are of particular concern. Due to increased concerns over health impacts related to fine particulate matter, both State and federal $PM_{2.5}$ standards have been created. These standards were established due to increasing concerns that previous standards were inadequate and the statewide potential for significant health impacts associated with fine particulate matter exposure was determined to be large and wide-ranging. Fine particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease.

Table 7 Current Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standard (CAAQS)	Federal Standard (NAAQS)
Ozone (O_3)	1-Hour	0.09 ppm	–
	8-Hour	0.070 ppm	0.070 ppm
Carbon Monoxide (CO)	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	20.0 ppm	35.0 ppm
Nitrogen Dioxide (NO_2)	Annual	0.030 ppm	0.053 ppm
	1-Hour	0.18 ppm	0.100 ppm
Sulfur Dioxide (SO_2)	Annual	–	–
	24-Hour	0.04 ppm	–
	1-Hour	0.25 ppm	0.075 ppm
PM_{10}	Annual	20 µg/m^3	–
	24-Hour	50 µg/m^3	150 µg/m^3
$PM_{2.5}$	Annual	12 µg/m^3	12 µg/m^3
	24-Hour	–	35 µg/m^3
Lead	30-Day Average	1.5 µg/m^3	–
	Rolling 3-Month Average	–	0.15 µg/m^3

ppm = parts per million; µg/m^3 = micrograms per cubic meter

Source: CARB 2017a

c. Current Ambient Air Quality

Local air districts and CARB monitor ambient air quality to assure that air quality standards are met, and if they are not met, to also develop strategies to meet the standards. Air quality monitoring stations measure pollutant ground-level concentrations, typically ten feet above ground level. Depending on whether the standards are met or exceed, the local air basin is classified as in "attainment" or "non-attainment." Some areas are unclassified; which means no monitoring data are available. Unclassified areas are considered to be in attainment. Table 8 summarizes the State and federal attainment status for criteria pollutants in the NCCAB.

Table 8 Attainment Status of the North Central Coast Air Basin

Pollutant	State Standard (CAAQS)	Federal Standard (NAAQS)
Ozone (O_3)	**Non-attainment**	Attainment
Inhalable Particulates (PM_{10})	**Non-attainment**	Attainment
Fine Particulates ($PM_{2.5}$)	Attainment	Attainment
Carbon Monoxide (CO)	Attainment (Monterey County)[1]	Attainment
Nitrogen Dioxide (NO_2)	Attainment	Attainment
Sulfur Dioxide (SO_X)	Attainment	Attainment
Lead	Attainment	Attainment

Notes: Non-attainment pollutants are highlighted in bold.

1. Monterey County is in attainment for CO; San Benito and Santa Cruz Counties or in non-attainment.

Source: MBUAPCD 2015

As shown in Table 8, although the NCCAB is in attainment or unclassified for all NAAQS, it is in non-attainment with respect to the more stringent State PM_{10} standard and the State's eight-hour ozone standard. The federal eight-hour ozone standards were lowered to 0.07 ppm in October 2015; however, the federal attainment status has not been changed.

Ambient air quality is monitored at six MBARD-operated monitoring stations throughout the NCCAB, located in Felton, Santa Cruz, Hollister, Salinas, Carmel Valley, and King City. In addition, the National Parks Service operates a station at the Pinnacles National Park. Table 9 summarizes the representative annual air quality data for the project vicinity over the past three years (2014-2016). The nearest monitoring stations to the project site are Carmel Valley (approximately ten miles southeast) and Salinas (approximately 19 miles northeast). However, the King City monitoring station was used to determine levels of PM_{10} as neither the Carmel Valley nor the Salinas monitoring stations recorded PM_{10} concentrations.

The primary pollutants of concern for the NCCAB are ozone and PM_{10}, as those are the pollutants for which the MBARD is in non-attainment. As indicated in Table 9, there was no federal or state ozone exceedance at the nearest NCCAB monitoring station in 2014, 2015, or 2016. The State and federal standards for PM_{10} were also not exceeded at the nearest NCCAB monitoring station in 2014, 2015, and 2016; the federal standard for $PM_{2.5}$ was not exceeded in 2014, but was exceeded once in 2015 and an estimated 11.9 days in 2016 (CARB 2017a).

Table 9 Ambient Air Quality Data

Pollutant	2014	2015	2016
Ozone (ppm), Worst 1-Hour	0.078	0.071	0.078
Number of days of State exceedances (>0.09 ppm)	0	0	0
Ozone (ppm), 8-Hour Average	0.07	0.066	0.061
Number of days of State exceedances (>0.07 ppm)	0	0	0
Number of days of Federal exceedances (>0.07 ppm)	0	0	0
Carbon Monoxide (ppm), Highest 8-Hour Average	*	*	*
Number of days of above State or Federal standard (>9.0 ppm)	*	*	*
Particulate Matter <10 microns, μg/m^3, Worst 24 Hours	99.2	72.6	71.4
Number of days above State standard (>50 μg/m^3)	*	*	*
Number of days above Federal standard (>150 μg/m^3)	0	0	0
Particulate Matter <2.5 microns, μg/m^3, Worst 24 Hours	16.3	43.2	104.7
Number of days above Federal standard (>35 μg/m^3)	0	1	12

Notes: ppm = parts per million; μg/m^3 = micrograms per cubic meter

* No data was available for the NCCAB to determine the value.

Source: CARB 2017a

Toxic Air Contaminants

According to Section 39655 of the California Health and Safety Code, a toxic air contaminant (TAC) is "an air contaminant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health." 189 substances that have been listed as federal hazardous air pollutants (HAP) pursuant to Section 4712 of Title 42 of the United States Code are classified as TACs under the State's air toxics program pursuant to Section 39657(b) of the California Health and Safety Code.

TACs can cause cancer and other types of long-term health effects, depending on the particular chemical, their type and duration of exposure; some TACs can also result in short-term health effects. The ten TACs posing the greatest health risk in California are acetaldehyde, benzene, 1-3 butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchlorethylene, and diesel PM. Mobile sources of TACs include freeways and other roads with high traffic volumes (urban roads with traffic volumes exceeding 100,000 vehicles per day or rural roads exceeding 50,000 vehicles per day), while stationary sources include distribution centers, rail yards, ports, refineries, dry cleaners, and large gas dispensing facilities.

d. Sensitive Receptors

Certain population groups are more sensitive to air pollution than the general population; in particular, children, the elderly, and acutely ill and chronically ill persons, especially those with cardio-respiratory diseases, are considered sensitive receptors. Sensitive receptors that are in proximity to localized sources of particulate matter, toxics, and CO are of particular concern. As described in the MBARD's *CEQA Air Quality Guidelines*, a sensitive receptor is defined as: any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (K-12); daycare centers; and healthcare facilities such as hospitals or retirement and nursing homes.

MBARD recommends evaluating potential impacts to sensitive receptors within 1,000 feet of the project site. The nearest sensitive receptors to the project site are mixed-use buildings (offices/residences) located approximately 30 feet east of the project site and the lodging use/inn, located directly northwest of the project site (Monterey County 2011). For the purposes of this analysis, any future reference to sensitive receptors will be referring to these residences.

4.1.3 Regulatory Setting

This analysis has been prepared pursuant to the California Environmental Quality Act (CEQA) of 1970 and associated Guidelines (Public Resources Code 21000 et seq. and California Code of Regulations, Title 14, Chapter 3, Sections 15000-15387) and in accordance with local, state and federal laws, including those administered by MBARD, CARB, and the USEPA. The principal air quality regulatory mechanisms include the following:

- Federal Clean Air Act (FCAA), in particular, the 1990 amendments;
- California Clean Air Act (CCAA);
- California Health and Safety Code (H&SC), in particular, Chapter 3.5 (Toxic Air Contaminants) (H&SC Section 39650 et seq.) and Part 6 (Air Toxics "Hot Spots" Information and Assessment) (H&SC Section 44300 et seq.);
- MBARD's Rules and Regulations and air quality planning documents; Rule 400 (Visible Emissions), Rule 402 (Nuisances), Rule 423 (New Source Performance Standards) incorporates Part 60, Chapter I, Title 40 of the Code of Federal Regulations, Rule 425 (Use of Cutback Asphalt);
- 2012-2015 Air Quality Management Plan (AQMP) – Adopted March 2017 as an update to the 2012 AQMP;
- 2007 Federal Maintenance Plan – Adopted May 2007 for maintaining the 1997 federal ozone standard;
- 2005 Particulate Matter Plan – Adopted December 2005 for particulate matter made in response to SB 656;
- 2008 MBUAPCD California Environmental Quality Act Air Quality Guidelines; and
- Guidelines for Implementing the California Environmental Quality Act, updated February 2016.

Federal

The federal and state governments have been empowered by the federal and state Clean Air Acts to regulate the emission of airborne pollutants and have established ambient air quality standards for the protection of public health. The USEPA is the federal agency designated to administer air quality regulation, while the CARB is the state equivalent in California. Local control in air quality management is provided by CARB through county-level or regional (multi-county) air pollution control districts (APCD). CARB establishes air quality standards and is responsible for control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. CARB has established 14 air basins statewide.

Federal Clean Air Act

USEPA is charged with implementing national air quality programs. USEPA's air quality mandates are drawn primarily from the FCAA. The FCAA was passed in 1963 by the U.S. Congress and has been amended several times. The 1970 FCAA amendments strengthened previous legislation and laid the

foundation for regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including non-attainment requirements for areas not meeting NAAQS and the Prevention of Significant Deterioration program. The 1990 FCAA amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the U.S. The FCAA allows states to adopt more stringent standards or to include other pollution species.

NATIONAL AMBIENT AIR QUALITY STANDARDS

As discussed above, the FCAA requires the USEPA to establish primary and secondary NAAQS for a number of criteria pollutants. The air pollutants for which standards have been established are considered the most prevalent air pollutants that are known to be hazardous to human health. NAAQS have been established for the following pollutants: O_3, CO, SO_2, PM_{10}, $PM_{2.5}$, and lead (Pb).

TITLE III OF THE FEDERAL CLEAN AIR ACT

HAPs are the air contaminants identified by the USEPA as known or suspected to cause cancer, other serious illnesses, birth defects, or death. The FCAA requires USEPA to set standards for these pollutants and reduce emissions of controlled chemicals. Specifically, Title III of the FCAA requires USEPA to promulgate National Emissions Standards for Hazardous Air Pollutants (NESHAP) for certain categories of sources that emit one or more pollutants that are identified as HAPs. The FCAA also requires USEPA to set standards to control emissions of HAPs through mobile source control programs. These include programs that reformulated gasoline, national low emissions vehicle standards, Tier 2 motor vehicle emission standards, gasoline sulfur control requirements, and heavy-duty engine standards.

HAPs tend to be localized and are found in relatively low concentrations in ambient air. However, they can result in adverse chronic health effects if exposure to low concentrations occurs for long periods of time. Many HAPs originate from human activities, such as fuel combustion and solvent use. Emission standards may differ between “major sources” and “area sources” of the HAPs/TACs. Under the FCAA, major sources are defined as stationary sources with the potential to emit more than ten tons per year (tpy) of any one HAP or more than 25 tons per year (tpy) of any combination of HAPs; all other sources are considered area sources. Mobile source air toxics (MSAT) are a subset of the 188 HAPs. Of the 21 HAPs identified by the USEPA as MSATs, six priority HAPs have been identified, including: diesel exhaust, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene. While vehicle miles traveled in the United States is expected to increase by 64% over the period from 2000 to 2020, emissions of MSATs are anticipated to decrease substantially as a result of efforts to control mobile source emissions (by 57-67% depending on the contaminant).

State

California Clean Air Act

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the State to achieve and maintain the CAAQS by the earliest practical date. CARB is the State air pollution control agency and is a part of the California Environmental Protection Agency (CalEPA). CARB is the agency responsible for coordination and oversight of the State and local air pollution control programs in California, and for implementing the requirements of the CCAA. CARB oversees local district compliance with California and federal laws, approves local air quality plans, submits the Strategic Implementation Plans (SIP) to the USEPA, monitors air quality, determines and updates area

designations and maps, and sets emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

The CCAA requires CARB to establish CAAQS. Similar to the NAAQS, CAAQS have been established for the following pollutants: O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, Pb, vinyl chloride, hydrogen sulfide, sulfates, and visibility-reducing particulates. In most cases, the CAAQS are more stringent than the NAAQS. The CCAA requires that all local air districts in the State endeavor to achieve and maintain the CAAQS by the earliest practical date. The CCAA specifies that local air districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources, and provides districts with the authority to regulate indirect sources.

Tanner Air Toxics Act and Air Toxics Hot Spots Information and Assessment Act

TACs in California are primarily regulated through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588) (Hot Spots Act). As discussed above, HAPs/TACs are a broad class of compounds known to cause morbidity or mortality (cancer risk). HAPs/TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state and federal level.

AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. To date, CARB has identified more than 21 TACs and adopted USEPA's list of HAPs as TACs. In 1998, diesel PM was added to CARB's list of TACs. Once a TAC is identified, CARB adopts an Airborne Toxic Control Measure for sources that emit that particular TAC. If a safe threshold exists at which no toxic effect occurs from a substance, the control measure must reduce exposure below that threshold. If no safe threshold exists, the measure must incorporate Best Available Control Technology (BACT) to minimize emissions.

The Hot Spots Act requires existing facilities that emit toxic substances above a specified level to prepare a toxic emissions inventory and a risk assessment if the emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

DIESEL EXHAUST AND DIESEL PARTICULATE MATTER

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). Diesel exhaust is a complex mixture of gases, vapors, and fine particles that include particulate matter, benzene and formaldehyde, which have been previously identified as TACs by CARB, and are listed as carcinogens either under State Proposition 65 or under the Federal Hazardous Air Pollutants program.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of diesel PM. Several of these regulatory programs affect medium and heavy duty diesel trucks that represent the bulk of diesel PM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In September 2000, CARB adopted the Diesel Reduction Plan, which recommends control measures to reduce risks associated with diesel PM and achieve an 85 percent reduction in diesel PM relative to 2000 levels by 2020 (CARB 2017d). In 2011, CARB approved the On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation that requires existing on-road heavy-duty diesel fueled vehicles to meet specific performance requirements between 2012 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or the

equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle. As emissions are reduced, risks associated with exposure to emissions also are expected to be reduced.

CARB AIR QUALITY AND LAND USE HANDBOOK

In April 2005, CARB released the final version of its *Air Quality and Land Use Handbook: A Community Health Perspective*. This guidance document is intended to encourage local land use agencies to consider the risks from air pollution before they approve the siting of sensitive land uses near sources of air pollution, particularly TACs (e.g., freeway and high traffic roads, commercial distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, and industrial facilities). These advisory recommendations include general setbacks or buffers from air pollution sources. However, unlike industrial or stationary sources of air pollution, the siting of new sensitive land uses does not require air quality permits or approval by air districts, and, as noted above, the CARB handbook provides guidance rather than binding regulations.

Regional

Monterey Bay Air Resources District (MBARD)

MBARD regulates air quality in the NCCAB, and is responsible for attainment planning related to criteria air pollutants and for district rule development and enforcement. It also reviews air quality analyses prepared for CEQA assessments and has published the *CEQA Air Quality Guidelines* documents (last revised February 2008). The purpose of the guidelines is to assist in the review and evaluation of air quality impacts from projects which are subject to CEQA. The Guidelines are an advisory document intended to provide lead agencies, consultants, and project proponents with uniform procedures for assessing potential air quality impacts and preparing the air quality section of environmental documents. The Guidelines are also intended to help these entities anticipate areas of concern from the MBARD in its role as a lead, commenting, and/or responsible agency for air quality.

MBARD has established rules and regulations to reduce the generation of criteria pollutants, including the following:

- **MBARD Rule 402 – Nuisances.** Prohibits the discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or which endanger the comfort, repose, health, or safety of any such persons or the public; or which cause, or have a natural tendency to cause, injury or damage to business or property.
- **MBARD Rule 426 – Architectural Coatings.** Limits the VOC content for architectural coatings; specifically, limits the VOC content of flat coatings to 50 grams/ liter (g/L).

AIR QUALITY MANAGEMENT PLAN (AQMP)

In accordance with the CCAA, MBARD has developed the *2012-2015 Air Quality Management Plan for the Monterey Bay Region* (2017). The plan updates the 2012 AQMP with a revised air quality trends analysis that reflects revisions to the one- and eight-hour standards, as well as an updated emission inventory, which includes the latest information on stationary, area and mobile emission sources.

4.1.4 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

The analysis of air quality impacts conforms to the methodologies recommended in the MBARD's *CEQA Air Quality Guidelines* (2008). The handbook includes thresholds for emissions associated with both construction and operation of proposed projects. Project air pollutant emissions were quantified using the California Emissions Estimator Model (CalEEMod, Version 2016.3.1). CalEEMod worksheets showing model inputs and results are provided in Appendix B.

Construction Emissions

CalEEMod quantifies construction emissions associated with the use of off-road equipment, on-road worker commute, construction delivery and haul trucks, and application of architectural coatings. The program calculates construction emissions by phase primarily based on the construction equipment to be used (e.g., crawler tractors, graders, dozers, scrapers, etc.), hours of use, equipment specifications, the estimated area of disturbance calculated for each piece of equipment, the number of construction vehicle trips, and the lengths of trips.

As described in Section 2.5.3, *Construction and Grading*, the proposed project would require 14,006 cubic yards (cy) of fill material and would generate 355 cy of cut material; the remaining 13,651 cy of required fill material would need to be imported in order to raise the project site above the mapped flood plain. In addition, the Preliminary Geotechnical Report (Pacific Crest Engineering [PCE] 2017; refer to Appendix F) recommends the removal of up to four inches of earth across the entire project site, the removal of 24 inches of earth beneath structure foundations, and the removal of 18 inches of earth beneath pavement foundations. Based on Rincon staff calculations provided in Appendix B, these recommendations in combination with required cut and fill material would result in 8,832 cy of net exported material and 22,483 cy of net imported material. CalEEMod was adjusted to reflect these assumptions as a reasonable worst-case scenario.

Operational Emissions

Operational emissions associated with on-site development were estimated using CalEEMod. Operational emissions include mobile source emissions, energy use emissions, and area source emissions associated with energy consumption, and area source emissions. Mobile source emissions are generated by motor vehicle trips to and from the project site associated with operation of the project. Project trip generation rates and percentages of primary, diverted and pass-by trips used in CalEEMod were taken from the traffic study prepared in December 2017 for the project by Keith Higgins Traffic Engineer (KHTE) (Appendix G). Energy use emissions are generated by natural gas consumption for space and water heating and cooling. Area source emissions are generated by landscape maintenance equipment, consumer products, and architectural coatings, for example. The project's proximity to transit was also accounted for in CalEEMod through the application of the model's Mitigation Measure LUT-5, "Increase Transit Accessibility."

Thresholds of Significance

The analysis of the project's air quality impacts follows the guidance and methodologies recommended in the MBARD *CEQA Air Quality Guidelines* (February 2008) and Appendix G of the

CEQA Guidelines. Appendix G of the *CEQA Guidelines* contains the following checklist of effects that may be deemed potentially significant:

1. Conflict with or obstruct implementation of the applicable air quality plan;
2. Violate any air quality standards or contribute substantially to an existing or projected air quality violation;
3. 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 qualitative thresholds for ozone precursors);
4. Expose sensitive receptors to substantial pollutant concentrations; and/or
5. Create objectionable odors affecting a substantial number of people.

Threshold 1 is discussed under Section 4.9, *Effects Found Not to be Significant*. The project would be consistent with MBARD's 2012-2015 AQMP; therefore, there would be no impact.

The *CEQA Guidelines* further state that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the determinations above. MBARD has issued criteria for determining the level of significance for project specific impacts within its jurisdiction in accordance with the above thresholds. Based on criteria applied in or adapted from the MBARD's *Guidelines for Implementing the California Environmental Quality Act* (Monterey Bay Unified Air Pollution District [MBUAPCD] 2016), the proposed project's impacts on air quality would be significant if the project would:

- Be inconsistent with the adopted AQMP
- Cause or contribute to a violation of any California or National AAQS
- During construction or operation, emit greater than:
  - 137 pounds per day of oxides of nitrogen (NOx)
  - 137 pounds per day of volatile organic compounds (VOC)
  - 82 pounds per day of respirable particulate matter (PM10)
  - 55 pounds per day of fine particulate matter (PM2.5)
  - 550 pounds per day of carbon monoxide (CO)

MBARD indicates that the following traffic effects should stand as screening thresholds to determine whether a project would have the potential to generate a significant CO impact (MBUAPCD 2008):

- Intersections or road segments that currently operate at LOS D or better would operate at LOS E or F with addition of the project's traffic;
- V/C ratio at intersection or road segments at LOS E or F increases by 0.05 or more;
- Delay at intersection at LOS E or F increases by 10 seconds or more; or
- Reserve capacity at unsignalized intersection at LOS E or F decreases by 50 or more.

In the case that a project exceeds one or more of these screening thresholds, another bright-line threshold would then be applied to determine whether the project would actually generate a significant CO impact. The Bay Area Air Quality Management District (BAAQMD) has established a volume of 44,000 vehicles per hour as the level above which traffic volumes may contribute to a

violation of CO standards (BAAQMD 2011). This bright-line threshold is applied in the following impact analysis if the project exceeds any of the MBARD screening thresholds presented above.

b. Project Impacts and Mitigation Measures

Threshold 2:	Would the project violate any air quality standards or contribute substantially to any existing or projected air quality violation?

Impact AQ-1 CONSTRUCTION AND OPERATION OF THE PROPOSED PROJECT WOULD NOT GENERATE AIR POLLUTANTS IN QUANTITIES THAT EXCEED MBARD SIGNIFICANCE THRESHOLDS. THEREFORE, THE PROPOSED PROJECT WOULD NOT VIOLATE, OR CONTRIBUTE SUBSTANTIALLY TO THE VIOLATION OF AN AIR QUALITY STANDARD. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Construction Emissions

Construction emissions are temporary in nature, but have the potential to represent a significant short-term impact with respect to air quality. Operation of off-road construction equipment, mobile sources (i.e., delivery vehicles, construction worker vehicles, etc.), and architectural coatings generate particulate matter, NO_x, and VOC emissions. Generation of these emissions vary as a function of the types and number of heavy-duty, off-road equipment used and the intensity and frequency of their operation, as well as vehicle trips per day associated with delivery of construction materials, the importing and exporting of soil, vendor trips, and worker commute trips, and also the VOC concentration of coatings. Fugitive dust emissions are among the pollutants of greatest concern with respect to construction activities. General site grading operations are the primary sources of fugitive dust emissions. However, these emissions can vary greatly, depending on the level of activity, the specific operations taking place, the number and types of equipment operated, vehicle speeds, local soil conditions, weather conditions, and the amount of earth disturbance. The proposed project would involve site-preparation, grading, excavation, and paving using typical construction equipment. Maximum daily project construction emissions (lbs/day) were estimated using CalEEMod and are presented in Table 10. As shown therein, temporary emissions during construction would not exceed MBARD thresholds for any criteria pollutant.

Table 10 Estimated Construction Emissions

	Maximum Daily Emissions (lbs/day)					
	VOC	NO_x	CO	SO_X	PM_{10}	$PM_{2.5}$
Maximum Daily Construction Emissions	7.0	99.9	33.1	0.2	15.1	6.7
MBARD Significance Threshold	137	137	550	150	82	N/A
Exceeds Threshold?	No	No	No	No	No	N/A

See Appendix B for CalEEMod worksheets. Emission data presented is the highest of the winter and summer outputs.

Operational Emissions

Long-term operational emissions associated with the proposed project are those attributed to vehicle trips (mobile emissions), the use of natural gas (energy source emissions), and consumer products, architectural coatings, and landscape maintenance equipment (area source emissions). CalEEMod was used to calculate emissions based on the proposed land uses for the project site and the number of trips generated.

As shown in Table 11, the proposed project would not exceed MBARD significance thresholds for either ozone or PM_{10}, the two criteria pollutants for which the NCCAB is in non-attainment, or other criteria pollutants.

Table 11 Estimated Operational Emissions

	Maximum Daily Emissions (lbs/day)					
	VOC	NO_x	CO	SO_X	PM_{10}	$PM_{2.5}$
Area	1.1	<0.1	<0.1	0.0	<0.1	<0.1
Energy	<0.1	0.2	0.1	<0.1	<0.1	<0.1
Mobile	13.0	49.9	136.8	0.3	42.0	11.1
Total	14.0	50.0	136.8	0.3	42.1	11.1
MBARD Significance Threshold	137	137	550	150	82	N/A
Exceeds Threshold?	No	No	No	No	No	N/A

Note: Totals may not add up due to rounding.

See Appendix B for CalEEMod worksheets. Emission data presented is the highest of the winter and summer outputs.

Emissions generated by project construction and operation would not exceed MBARD significance thresholds. Therefore, the project would not violate air quality standards or contribute to existing violations and impacts would be less than significant. However, in accordance with policies contained in the Conservation and Open Space Element of the 2010 Monterey County General Plan, Mitigation Measures are recommended to control dust and criteria pollutant emissions during construction activities.

Mitigation Measure

As the impact would be less than significant, no mitigation is required. However, the following measures are *recommended* to ensure project consistency with General Plan policies OS-10.8 and OS-10.9 and to further minimize the less than significant air quality impacts from construction activities.

AQ-1(a) Measures to Reduce Fugitive Dust

- Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure
- Prohibit all grading activities during periods of high wind (over 15 mph)
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days)
- Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydro seed area
- Haul trucks shall maintain at least 2'0" of freeboard
- Cover all trucks hauling dirt, sand, or loose materials
- Plant tree windbreaks on the windward perimeter of construction projects if adjacent to open land
- Plant vegetative ground cover in disturbed areas as soon as possible
- Cover inactive storage piles
- Install wheel washers at the entrance to construction sites for all exiting trucks

- Pave all roads on construction sites
- Sweep streets if visible soil material is carried out from the construction site
- Post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the Monterey Bay 8-3 Unified Air Pollution Control District shall be visible to ensure compliance with Rule 402 (Nuisance)
- Limit the area under construction at any one time

AQ-1(b) Standard Mitigation for Construction Equipment

- Maintain all construction equipment in proper condition according to manufacturer's specifications
- Fuel all off-road and portable diesel powered equipment with ARB-certified motor vehicle diesel fuel (non-taxed version suitable for use off-road)
- Use diesel construction equipment meeting ARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State off-Road Regulation
- Use on-road heavy-duty trucks that meet the ARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines and comply with the State On-Road Regulation; construction or trucking companies with fleets that that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NOx exempt area fleets) may be eligible by proving alternative compliance
- All on- and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5 minute idling limit
- Prohibit diesel idling within 1,000 feet of sensitive receptors
- Prohibit staging and queuing areas within 1,000 feet of sensitive receptors
- Electrify equipment when feasible
- Substitute gasoline-powered in place of diesel-powered equipment, where feasible
- Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel.

MONITORING ACTION FOR AQ-1(A) AND (B)

The project applicant shall require construction contractors to incorporate the above standard Mitigation Measures, as applicable, to reduce PM, ROG, NO_X, and DPM emissions from construction activities. Mitigation Measures shall be listed on project construction plans and the project proponent shall perform periodic site inspections during construction to ensure that Mitigation Measures are being implemented.

Significance After Mitigation

Impacts would be less than significant.

Threshold 3:	Would the project 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 qualitative thresholds for ozone precursors)?

Impact AQ-2 OPERATION OF THE PROJECT WOULD NOT GENERATE PM10 EMISSIONS IN QUANTITIES EXCEEDING MBARD'S SIGNIFICANCE THRESHOLDS AND THE PROJECT WOULD BE CONSISTENT WITH THE AQMP. THEREFORE, THE PROJECT WOULD NOT RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE IN PM10 OR OZONE. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

The NCCAB is currently in non-attainment for ozone and PM_{10} standards. According to MBARD, a project that does not exceed MBARD's construction or operational thresholds and is consistent with the 2012-2015 AQMP would not have cumulatively considerable impacts on regional air quality (MBARD 2017). MBARD's *CEQA Air Quality Guidelines* further state that a project would result in a cumulatively considerable increase of PM_{10} if its PM_{10} emissions exceed the significance threshold of 82 lbs/day. The *CEQA Air Quality Guidelines* also state that a project that is inconsistent with the AQMP would have a cumulatively considerable impact on regional ozone levels. As demonstrated in Table 10 and Table 11 above, the project would emit less than 82 lbs/day during construction and operation, and, as discussed in Section 4.9, *Effects Found Not to be Significant* (See Air Quality, Threshold 1), the project would be consistent with the AQMP. Therefore, the project would not result in a cumulatively considerable increase in criteria pollutants for which the NCCAB is in non-attainment. This impact would be less than significant.

Mitigation Measure

No mitigation is required.

Threshold 2:	Would the project violate any air quality standards or contribute substantially to any existing or projected air quality violation?
Threshold 4:	Would the project expose sensitive receptors to substantial pollutant concentrations?

Impact AQ-3 THE PROJECT WOULD NOT GENERATE A VOLUME OF TRAFFIC THAT WOULD RESULT IN A VIOLATION OF CO AMBIENT AIR QUALITY STANDARDS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Areas with high vehicle density, such as congested intersections and parking garages, have the potential to create high concentrations of carbon monoxide (CO), known as CO "hotspots," which can expose sensitive receptors to these pollutant concentrations. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the NAAQS of 35.0 ppm or the state CAAQS of 20.0 ppm.

As discussed in Section 4.8, *Transportation and Circulation*, the project would significantly impact traffic conditions in the study area. Section 5.4 of the *CEQA Air Quality Guidelines* states that a project could potentially cause or substantially contribute to violation of the CO AAQS if it would degrade intersections or road segments from LOS D or better to LOS E or F or increase delay at an intersection currently at LOS E or F by 10 seconds or more. As discussed in Section 4.8, *Transportation and Circulation*, the project would degrade existing conditions at Intersection 3 (Highway 1/Rio Road) from D to E during PM peak hour and at Segment 7 (Carmel Valley Road between Schulte Road and Rancho San Carlos Road) from D to E in the westbound direction during

the Saturday peak hour. Therefore, project traffic impacts are further evaluated against the BAAQMD's brightline threshold to determine if the project would contribute to the creation of CO hotspots.

As stated above in Section 4.1.4.e, *Methodology and Significance Thresholds*, the BAAQMD has established a volume of 44,000 vehicles per hour as the level above which traffic volumes may contribute to a violation of CO standards (BAAQMD 2011). Table 12 shows the intersection(s) and roadway segment(s) that have been determined by the traffic study prepared for this project to result in a significant impact due to implementation of the project (KHTE 2017). As shown in Table 12, weekday AM, PM, and Saturday peak hour traffic volumes in the project area would not exceed 44,000 vehicles under Existing Plus Project or Cumulative Plus Project conditions. Therefore, the project would not result in volumes of traffic that would create, or substantially contribute to the exceedance of CO AAQSs. This impact would be less than significant.

Table 12 Impacted Nearby Intersections and Roadways

	Location	Peak AM Hour Traffic Volumes	Peak PM Hour Traffic Volumes	Peak Saturday Hour Traffic Volumes	Exceeds BAAQMD's 44,000 vehicles per hour Threshold?
Existing Plus Project Conditions					
Intersections					
Intersection 3	State Route 1 & Rio Road	2,057	2,743	2,927	**No**
Roadway Segments					
Segment 2	Southbound State Route 1 between Ocean Avenue and Carmel Valley Road	1,599	1,488	1,615	**No**
Segment 4	State Route 1 between Rio Road and River Road	778	1,224	1,313	**No**
Segment 7	Carmel Valley Road between Schulte Road and Rancho San Carlos Road	1,456	1,521	1,396	**No**
Segment 12	Rio Roach between Carmel Rancho Boulevard and State Route 1	1,172	1,705	1,787	**No**
Cumulative Plus Project					
Intersections					
Intersection 3	State Route 1 & Rio Road	2,277	2,984	3,060	**No**
Roadway Segments					
Segment 4	State Route 1 between Rio Road and Ribera Road	997	1,575	1,670	**No**
Segment 7	Carmel Valley Road between Schulte and Rancho San Carlos Road	1,678	1,744	1,694	**No**
Segment 12	Rio Road between Carmel Rancho Boulevard and State Route 1	1,235	1,786	1,867	**No**

Mitigation Measure

No mitigation is required.

Threshold 4:	Would the project expose sensitive receptors to substantial pollutant concentrations?

Impact AQ-4 THE PROJECT WOULD NOT GENERATE SUBSTANTIAL LEVELS OF DIESEL EXHAUST DURING CONSTRUCTION. THEREFORE, THE PROJECT WOULD NOT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL CONCENTRATIONS OF TACS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Exposure to localized concentrations of toxic air contaminants (TAC) was qualitatively assessed based on the project's potential to result in increased exposure of sensitive receptors to new or existing TAC emission sources. Construction emission estimates shown under Impact AQ-1 are based on a reasonable "worst-case" scenario and conservatively assume that all equipment would run simultaneously for at least six hours during each phase. The project could potentially expose sensitive receptors to temporary health hazards associated with TACs due to the operation of construction equipment. However, concentrations of mobile source diesel PM would only be present during temporary construction activities. High concentrations of diesel exhaust PM_{10} have a recognized carcinogenic and chronic health effect, but no short-term acute effect is currently recognized. In addition, the project site is not surrounded by tall buildings or other topographic features that would block air movement, allowing short-term construction emissions to disperse. Therefore, temporary construction activity would not result in missions that would expose sensitive receptors to substantial concentrations of TACs that could result in a significant health risk impact. Therefore, the project would not expose adjacent residences to hazardous levels of diesel PM over a long duration.

Furthermore, CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* identifies retails shops and stores as having the potential to produce air pollutants that could be harmful to sensitive land uses, such as schools, residences, daycare centers, playgrounds, or medical facilities (CARB 2005). However, Table 10 and Table 11 both illustrate that the proposed project would not introduce quantities of air pollutants during construction or operation that would exceed MBARD significance thresholds. CARB also recommends that the siting of new sensitive land uses be avoided when in close proximity of certain land uses such as freeways and high-traffic roads, distribution centers, rail yards, ports, refineries, chrome platers, dry cleaners using perchlorethylene, and gasoline dispensing facilities (CARB 2005). However, the proposed project is not considered by CARB as a sensitive land use. Therefore, the proposed project would not introduce new sensitive land uses to long term exposure of air pollutants. This impact would be less than significant.

Mitigation Measure

No mitigation is required.

Threshold 5:	Would the project create objectionable odors affecting a substantial number of people?

Impact AQ-5 **THE PROPOSED PROJECT WOULD NOT CREATE OBJECTIONABLE ODORS THAT WOULD AFFECT A SUBSTANTIAL NUMBER OF PEOPLE. IMPACTS RELATED TO ODORS WOULD BE LESS THAN SIGNIFICANT.**

Land uses typically producing objectionable odors include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (MBARD 2008). The proposed project does not include any uses that would be associated with objectionable odors. Odor emissions from the proposed project would be limited to odors associated with vehicle and engine exhaust and trash receptacles, and would be comparable with existing commercial uses near the site.

Construction activities would potentially generate odors from vehicle exhaust and fumes from fuel and architectural coatings. Construction-related odors would be temporary and would cease upon completion. As the project site is in a low density area without tall buildings to block air movement and hold odors, construction-related odors would disperse and dissipate and would not cause substantial odors at the closest sensitive receptors.

During operations, potential retail and commercial tenants at the project site may include restaurants. Food preparation, particularly cooking, may create odors that disperse through the project site and nearby proximity. Odors from potential restaurant tenants would be similar to the odors created by existing restaurants in the area, such as those in the Crossroads Carmel shopping center across Rio Road from the project site. Because construction odors would be temporary and dissipate, and operational odors would be similar to existing odors in the area, impacts of the proposed project would be less than significant.

Mitigation Measure

No mitigation is required.

Cumulative Impacts

The geographic scope for considering cumulative impacts to air quality is the North Central Coast Air Basin (NCCAB). As described in Section 3.3, *Cumulative Development*, five projects are planned or pending within the Carmel Valley; additional projects are likely planned throughout the NCCAB as well. Air pollution impacts are cumulative by nature as it is the accumulation of high concentrations of pollutants, usually from multiple sources, that results in impacts to health and the environment. Significance thresholds for operational and construction emissions established by MBARD are designed to address the cumulative impacts of a project's emissions on regional air quality; thus, a project that would not exceed MBARD thresholds would not have a cumulatively significant adverse impact to regional air quality.

The project would generate VOC and NO_x emissions, both precursors to O_3 (ozone), during construction activities and operation. As shown in Table 10 and Table 11, neither VOC nor NO_x emissions would exceed MBARD thresholds during construction or operations. Additionally, as discussed under Impact AQ-1 , the project would be consistent with the 2012-2015 AQMP, and as discussed under Impact AQ-4, the project would not generate traffic levels under cumulative plus project conditions that would result in a violation of the CO AAQS. Therefore, the project would not have a cumulatively considerable impact to regional air quality.

Project construction activities, if occurring simultaneously with construction activities for other projects in the Carmel Valley, could result in elevated levels of air pollutants in the local area. However, incorporation of Mitigation Measures AQ-1(a) and (b) would reduce the project's construction emissions the maximum extent possible and the project's construction emissions would be below MBARD's significance thresholds for construction emissions. Therefore, the project would have a less than significant contribution to cumulative impacts resulting from localized project construction impacts.

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4.2 Biological Resources

4.2.1 Summary

Table 13 summarizes the identified environmental impacts, proposed Mitigation Measures, and residual impacts of the proposed project with regard to biological resources. Additional detail related to potential impacts to biological resources is provided in Section 4.2.4 (Impact Analysis).

Table 13 Impact and Mitigation Summary: Biological Resources

Impact	Mitigation Measures	Residual Impact
Impact B-1. Implementation of the proposed project has the potential to impact special status animal species, specifically California red-legged frogs. Impacts would be significant but mitigable.	**B-1(a) Worker Environmental Awareness Program (WEAP)** ▪ Prior to issuance of Building or Grading permits, all personnel associated with project construction shall attend WEAP training, conducted by a qualified biologist, to aid workers in recognizing special status species and sensitive biological resources that may occur on-site. The program shall include identification of the special status species and their habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and Mitigation Measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. All employees shall sign a form documenting that they have attended the WEAP and understand the information presented to them. **Monitoring Action:** The WEAP form(s) shall be submitted to the Chief of Planning for review and approval prior to issuance of building or grading permits and prior to commencement of any construction activities. **B-1(b) CRLF Pre-construction Survey and Impact Avoidance** Measures shall be taken to identify, and if possible, avoid impacts California Red legged frogs (CRLF). ▪ Measures for identification of CRLF shall include: Within 48 hours prior to the start of construction activities, including staging and mobilization, a qualified biologist shall conduct pre-construction surveys in accordance with the 2005 Guidance on Site Assessments and Field Surveys for California Red-legged Frog, within suitable upland habitat (areas with small mammal burrows, blackberry brambles, or dense vegetation) on-site. **Monitoring Action:** The results of this survey shall be submitted to the Chief of Planning for review and approval prior to the initiation of construction activities. If no CRLFs are observed, ongoing measures described below shall be implemented but Mitigation Measure B-1 (c) may not be necessary. If CRLFs are observed, Mitigation Measure B-1 (c) shall be implemented. Ongoing during all construction activities, measures taken to avoid impacts to CRLF shall include: ▪ Ongoing monitoring by construction personnel pursuant to Mitigation Measure B-1 (a). ▪ Water shall not be allowed to pool in a manner that may	Implementation of Mitigation Measures B-1(a) through B-1(c) would reduce impacts to special status animals to a less than significant level.

Impact	Mitigation Measures	Residual Impact
	attract CRLF. ▪ All food-related garbage shall be placed in tightly sealed containers at the end of each workday to avoid attracting predators. Containers shall be emptied and garbage removed from the construction site at the end of each workweek. If sealed containers are not available, garbage shall be removed from the construction site upon completion of daily activities. All garbage removed from the construction site shall be disposed of at an appropriate off-site refuse location ▪ Pets shall be prohibited at the construction site. If, at any time during construction, federally and/or state protected species are inadvertently harmed, construction activities shall cease and Mitigation Measure B-1 (c) shall be implemented. All incidences of harm shall be reported to the CDFW and USFWS within 48 hours. **Monitoring Action:** Prior to final inspection of grading and building permits, the applicant shall demonstrate to the satisfaction of the Chief of Planning that avoidance measures were implemented during construction. Evidence shall include photos of the site during construction and a written statement from a qualified biologist. **B-1(c) USFWS Consultation** If, at any time during project implementation, CRLFs, during any life stages, are identified within the work area and impacts to individuals cannot be avoided, construction and grading in these areas shall be halted, and the County and USFWS shall be contacted immediately to initiate Federal Endangered Species Act consultation. No CRLFs shall be captured or relocated without expressed written permission from the USFWS. If CRLF are observed, the following additional measures shall be implemented: ▪ All areas where this species occurs shall be avoided until the approved biologist has determined that this species is no longer present. No life stages of this species shall be relocated without a take authorization from the USFWS and/or CDFW. If relocation is authorized, the species shall be taken to an approved relocation site prior to initiation of construction activities. ▪ A biologist approved by the USFWS and CDFW shall be present on-site during all ground disturbing activities, including vegetation removal, and grading. Once these activities have been completed, the approved biologist shall conduct periodic inspections of the work site of not less than once per week when construction activities are occurring in/adjacent to suitable habitat. Additional site visits should occur during rain events when special-status amphibians are likely to be mobile to ensure that they are not entering work areas. Work activities in or adjacent to suitable habitat shall be completed between April 1 and November 1 to the greatest extent feasible. Monitoring Action: If at any time prior to construction activities or during construction activities, potential impacts to CRLF are identified, construction activities shall not resume until authorized by a qualified biologist and, if applicable, USFWS and CDFW. Authorization from the qualified biologist,	

Impact	Mitigation Measures	Residual Impact
	and if applicable CDFW and USFWS, shall be submitted to the Chief of Planning for review and approval prior to commencing or recommencing construction activities.	
Impact B-2. Construction of the proposed project could directly impact nesting raptors and other avian species protected under existing regulations by causing injury, death, or nest failure. Potential impacts to nesting birds would be significant but mitigable.	**B-2 Pre-construction Surveys for Nesting Birds and Raptors** The nesting season generally occurs from February 1 to September 15. For tree removal or construction activities occurring during the nesting season, surveys for nesting birds and raptors covered by the CFGC and the MBTA shall be conducted by a qualified biologist no more than 14 days prior to tree removal or initiation of any construction activities. Construction activities include any initial work onsite, such as construction staging and vegetation removal. The surveys shall include the entire project site plus a 100-foot buffer for non-raptors and 250-foot buffer for raptors. If active nests are located, the qualified biologist shall establish avoidance buffers based on the species, nest location and observed behavior. Buffer shall be a minimum of 25 feet for non-raptor bird species and a minimum of 100 feet for raptor species. All construction work shall be conducted outside any designated avoidance zones. Larger than minimum buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The biologist shall have full discretion for establishing a suitable buffer. The buffer area(s) shall be closed to all construction personnel and equipment until the young are no longer reliant on the nest site. A qualified biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the avoidance buffer. Monitoring Action: No more than 14 day prior to removal of trees or initiation of construction activities, the applicant shall submit a written statement from a qualified biologist, to the satisfaction of the Chief of Planning describing how the Mitigation Measure has been complied with.	Implementation of Mitigation Measure B-2 would reduce impacts to nesting bird species to a less than significant level.
Impact B-3. Construction of the proposed project would require removal of native trees, which are protected under CVMP policy CV-3.11 and Monterey County Code Section 21.64.260. Pursuant to required receipt of a tree removal permit before proceeding with removals, the project would not conflict with either policy or ordinance. Therefore, potential impacts would be less than significant.	No mitigation is required.	Impacts would be less than significant.

4.2.2 Setting

a. Regional Setting

The project site is located in unincorporated Monterey County, within the mouth of the Carmel Valley. The Carmel Valley is drained by the Carmel River, which originates in the Santa Lucia Mountains and flows into the Pacific Ocean. Common habitats within the Carmel Valley include oak and riparian woodlands, chaparral and other shrublands, and grasslands. Natural habitats have been altered by development and agriculture, but intact corridors of habitat exist in the valley, most commonly associated with the Carmel River riparian corridor.

b. Project Site Setting

Vegetation Communities

Vegetation community mapping for the site is based on aerial imagery, a reconnaissance survey completed by Rincon Consultants, Inc. on August 31, 2017, and desktop review of available biological information summarized in Appendix C, *Special Status Species and Natural Communities*. Vegetation classification was based on *A Manual of California Vegetation, Second Edition* (Sawyer et al., 2009) and *Preliminary Descriptions of the Terrestrial Communities of California* (Holland, 1986); however, classifications have been modified as needed to accurately describe the existing habitats observed on-site.

The project site contains two vegetation communities, non-native annual grassland and Mixed Woodland, and one land cover type, landscaped/developed/disturbed (see Figure 2 and Table 14), each of which are discussed in greater detail below. Six natural communities (Figure 18) considered sensitive by the California Department of Fish and Wildlife (CDFW), as part of the Natural Heritage program and tracked in the CDFW California Natural Diversity Database (CNDDB), occur within five miles of the project site: Monterey pine forest, Monterey cypress forest, central dune scrub, central maritime chaparral, Monterey Pygmy cypress forest, and northern bishop pine forest (CDFW 2017a). Federally designated critical habitat for steelhead (*Oncorhynchus mykiss*), western snowy plover (*Charadrius alexandrinus nivosus*), California red-legged frog (*Rana draytonii*), and Yadon's piperia (*Piperia yadonii*) are mapped within five miles of the project site (USFWS 2017). Neither of the two vegetation communities or land cover type present on site is considered sensitive, and no federally designated critical habitat overlaps the site.

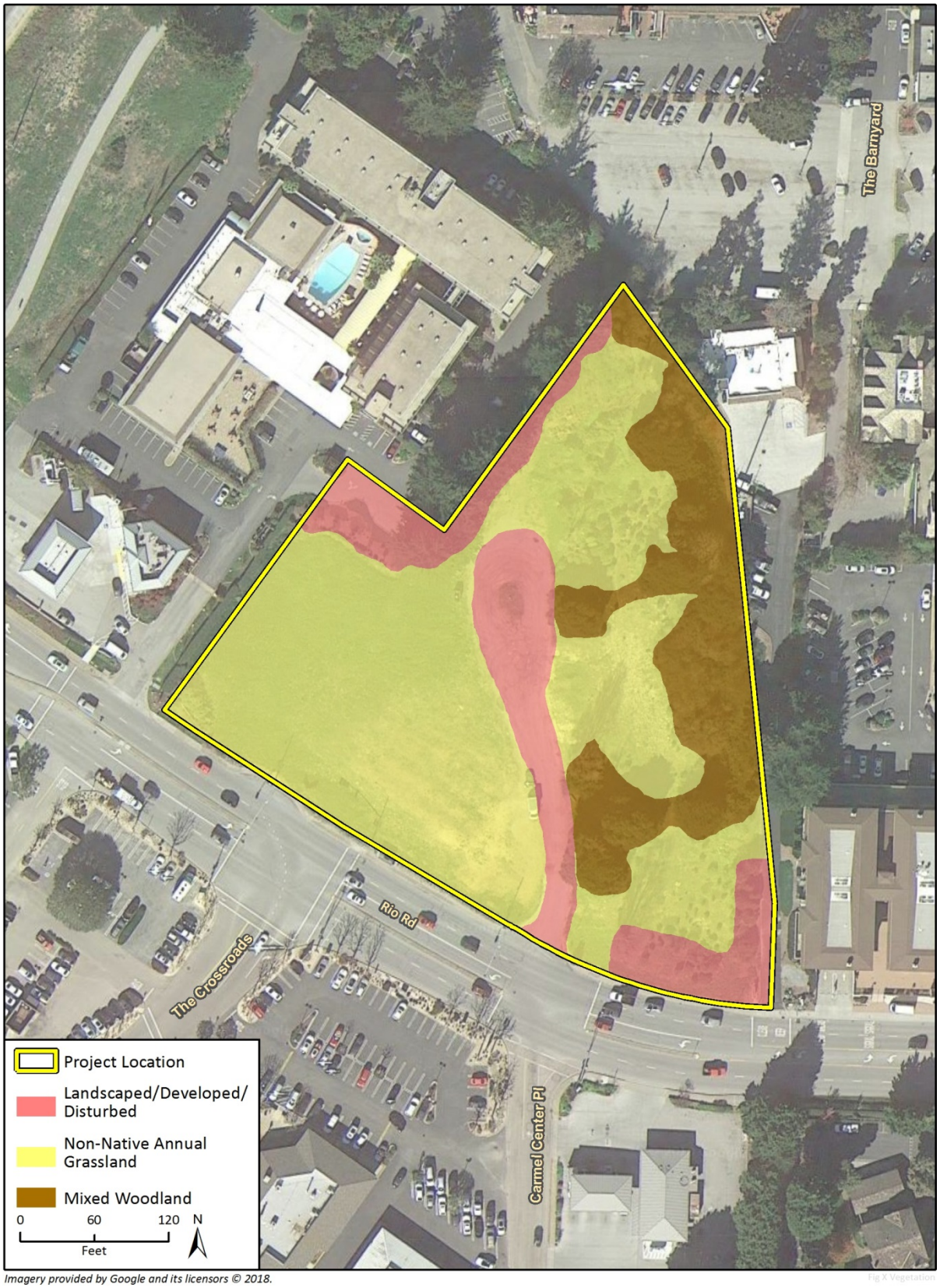
Table 14 On-Site Vegetation Communities and Land Cover Type

Vegetation Community/Land Cover Type	Acres (approx.)[1]
Mixed Woodland	0.8
Non-native Annual Grassland	2.2
Landscape/Developed/Disturbed	0.7

[1]These figures sum to approximately 3.7 acres. Based on the County's parcel data, the project site is approximately 3.8 acres. This mapping discrepancy is the result of different data sets with varying levels of accuracy.

Each of the on-site vegetation communities and land cover types, shown in Figure 17, are described below:

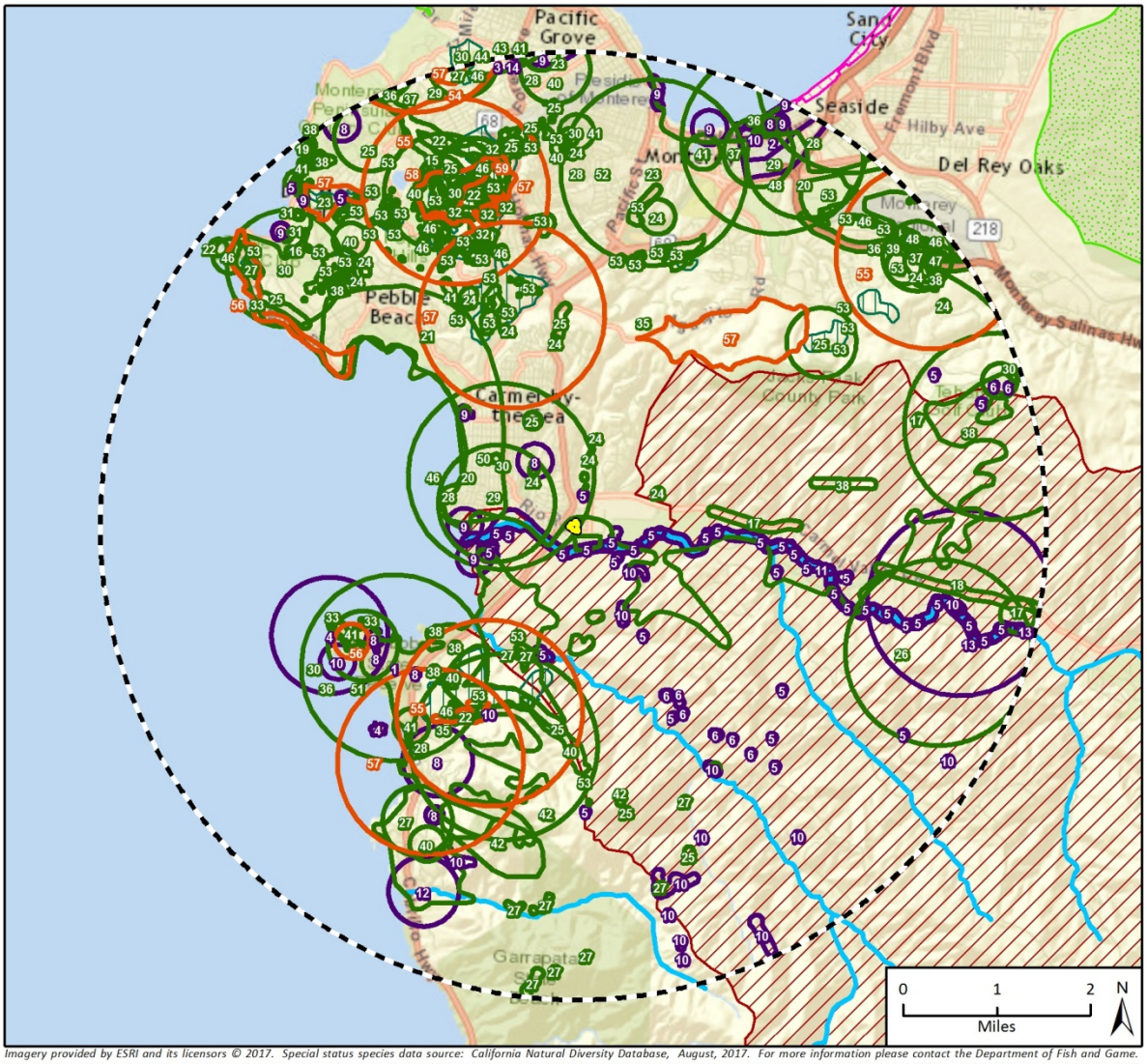
Figure 17 Vegetation Communities and Biological Resources



Imagery provided by Google and its licensors © 2018.

Fig X Vegetation

Figure 18 Sensitive Species, Natural Communities, and Designated Critical Habitats



Imagery provided by ESRI and its licensors © 2017. Special status species data source: California Natural Diversity Database, August, 2017. For more information please contact the Department of Fish and Game. Critical habitat data source: U.S. Fish and Wildlife Service, June, 2017. Final critical habitat acquired via the USFWS Critical Habitat Portal. It is only a general representation of the data and does not include all designated critical habitat. Contact USFWS for more specific data.

Project Location
5-Mile Buffer

CNDDB
Animals
Plants
Natural Communities

Critical Habitat
California red-legged frog
Monterey spineflower
Western snowy plover
Yadon's piperia
Steelhead

1 - black swift
2 - burrowing owl
3 - California black rail
4 - California brown pelican
5 - California red-legged frog
6 - California tiger salamander
7 - Coast Range newt
8 - monarch - California overwintering population
9 - northern California legless lizard
10 - Smith's blue butterfly
11 - steelhead - south-central California coast DPS
12 - Townsend's big-eared bat
13 - western pond turtle
14 - western snowy plover
15 - angel's hair lichen
16 - beach layia
17 - Carmel Valley bush-mallow
18 - Carmel Valley malacothrix
19 - coastal dunes milk-vetch
20 - Eastwood's goldenbush
21 - fragrant fritillary
22 - Gowen cypress
23 - Hickman's cinquefoil
24 - Hickman's onion
25 - Hooker's manzanita
26 - Hospital Canyon larkspur
27 - Hutchinson's larkspur
28 - Jolon clarkia
29 - Kellogg's horkelia
30 - marsh microseris
31 - Menzies' wallflower
32 - Monterey clover
33 - Monterey cypress
34 - Monterey gilia
35 - Monterey pine
36 - Monterey spineflower
37 - northern curly-leaved monardella
38 - Pacific Grove clover
39 - Pajaro manzanita
40 - pine rose
41 - pink Johnny-nip
42 - Pinnacles buckwheat
43 - saline clover
44 - San Francisco collinsia
45 - sand-loving wallflower
46 - sandmat manzanita
47 - Santa Cruz clover
48 - seaside bird's-beak
49 - Tidestrom's lupine
50 - Toro manzanita
51 - twisted horsehair lichen
52 - woodland woollythreads
53 - Yadon's rein orchid
54 - Central Dune Scrub
55 - Central Maritime Chaparral
56 - Monterey Cypress Forest
57 - Monterey Pine Forest
58 - Monterey Pygmy Cypress Forest
59 - Northern Bishop Pine Forest

FigX CNDDB

Mixed Woodland

This vegetation community is not described in either the Holland (1986) or Sawyer et al. (2009) classification systems, and occurs on the east-northeast side of the site. It is likely a remnant of a tributary that used to run through the property, as discussed in *Drainages and Wetlands* below. This vegetation type covers approximately 0.8 acres of the site. Species observed in this area include a mixture of native and non-native species, including coast live oak (*Quercus agrifolia*), ornamental redwoods (*Sequoia sempervirens*), Hollywood juniper (*Juniperus chinensis*), willow (*Salix* sp.), English ivy (*Hedera helix*), and California buckeye (*Aesculus californica*).

Non-native Annual Grassland

This vegetation community occurs primarily in the southwest quarter of the project site, where vegetation has been cleared. This community most closely corresponds to Non-native Grassland in Holland (1986) and Avena (barbata, fatua) Semi-Natural Stands (Unranked, 775) in Sawyer et al. (2009). Species observed in this area include Italian rye grass (*Festuca perennis*), wild oats (*Avena* sp.), Kikuyu grass (*Pennisetum clandestinum*), and foxtail barley (*Hordeum murinum*). Herbaceous plants (i.e., forbs) such as mustards (*Brassica* spp.), wild radish (*Raphanus sativus*), and fennel (*Foeniculum vulgare*), as well as coyote brush (*Baccharis pilularis*), were also observed. This community covers approximately 2.2 acres of the site.

Landscaped/Disturbed/Developed

This land cover type is not naturally occurring and, therefore, is not described in either the Holland (1986) or Sawyer et al. (2009) classification systems. Developed areas include a paved driveway entrance, a gravel driveway, a section of the Carmel Mission Inn parking lot, and landscaped areas. Vegetation in landscaped areas include ornamental junipers (*Juniperus* sp.), oleander (*Nerium oleander*), and planted trees such as Monterey cypress (*Cupressus macrocarpa*), Monterey pine (*Pinus radiata*), black poplar (*Populus nigra*), and California sycamore (*Platanus racemose*). Associated shrubs include coyote brush (*Baccharis pilularis*) and ornamental ceanothus (*Ceanothus* sp.). This land cover type covers approximately 0.7 acres of the site.

Drainage and Wetlands

The project site is located within the Carmel River watershed. The portion of the Carmel River approximately 1,000 feet south of the site is a perennial drainage. Flows from the Carmel River ultimately drain into the Pacific Ocean, approximately 1.1 miles west of the site. The Carmel River and its tributaries are of biological importance, and are utilized by species such as south-central California coast (S-CCC) steelhead Distinct Population Segment (DPS) and California red-legged frog. The Carmel River is classified as critical habitat for the S-CCC DPS of steelhead (NMFS 2005).

Historical topographic maps show a tributary of the Carmel River running though the east side of the site, connecting to the Hatton Canyon drainage to the north. This unnamed tributary was diverted to an underground culvert north of the Barnyard Shopping Village (the adjacent property to the north), and discharging at the Carmel River south of the Crossroads Carmel shopping center (on the south side of Rio Road opposite the site). A swale was observed during the site visit in the alignment of the historic tributary, on the east side of the project site (within mixed woodland); however, there was no evidence of water flow, ordinary high water mark, or hydrophytic vegetation. No drainages, wetlands, other features subject to U.S. Army Corps of Engineers (USACE) jurisdiction under the federal Clean Water Act, or which fall under CDFW or Regional Water Quality Control Board (RWQCB) jurisdiction, occur within the project site.

Special Status Species

For the purpose of this EIR, special status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS or National Marine Fisheries Service (NMFS) under the federal Endangered Species Act (FESA); those listed or proposed for listing as rare, threatened, or endangered by the CDFW under the California Endangered Species Act (CESA); animals designated as "Species of Special Concern," "Fully Protected," or "Watch List" by the CDFW; and plants with a California Rare Plant Rank (CRPR) of 1 or 2 which are defined as:

- **CRPR 1A** = Plants presumed extinct in California;
- **CRPR 1B.1** = Rare or endangered in California and elsewhere; seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat);
- **CRPR 1B.2** = Rare or endangered in California and elsewhere; fairly endangered in California (20-80% occurrences threatened);
- **CRPR 1B.3** = Rare or endangered in California and elsewhere, not very endangered in California (<20% of occurrences threatened or no current threats known);
- **CRPR 2A** = Plants Presumed Extirpated in California, But Common Elsewhere;
- **CRPR 2B** = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

Literature Review

Queries of the USFWS Information for Planning and Consultation (IPaC) (USFWS 2017), CDFW CNDDB (CDFW 2017a), and California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants of California (CNPS 2017) were conducted to obtain comprehensive information regarding special status species known to occur or considered to have potential to occur within the project site and/or the surrounding vicinity, which is defined to be the area otherwise within the Monterey, California United States Geological Survey (USGS) 7.5- minute topographic quadrangle and the surrounding four quadrangles of Marina, Seaside, Soberanes Point, and Mt. Carmel. Twenty-one special status animal species were evaluated for their potential to occur within the project site. Of those, one species has the potential to occur within the project site: California red-legged frog (CRLF). Special status species are unlikely to occur within the developed and non-native grassland areas of the site because of a lack of natural habitat; however, the mixed woodland areas on-site may provide marginal habitat for CRLF, nesting birds, and roosting bats.

The CNDDB records within a five-mile radius of the project site were reviewed for this analysis and are shown in Figure 18. Thirty-eight (38) special status plant species, one special status lichen, and 14 special status animal species are documented by the CNDDB within five miles of the project site. One CNDDB record of an unspecified location for Jolon clarkia (*Clarkia jolonensis*), sandmat manzanita (*Arctostaphylos pumila*), Kellogg's horkelia (*Horkelia cuneata* var. *sericea*), and Eastwood's goldenbush (*Ericameria fasciculate*) overlaps with the project site. The full results of these queries are provided in Appendix C, for the purpose of evaluating potential to occur and indirect off-site impacts. Species with a potential to be impacted are discussed in more detail blow.

California Red-legged Frog

The CRLF is federally Threatened and a California species of special concern. Critical habitat for the CRLF is mapped to the south, east, and northeast of the project site, as shown in Figure 18. The closest critical habitat unit to the project site, MNT2, is adjacent to the Carmel River, approximately 1,064 feet south of the project site. No CRLFs were observed within the project site. There are 34

CNDDB records of CRLF within five miles of the site. The closest CRLF occurrence is approximately 870 feet to the southeast of the site. No suitable aquatic breeding habitat occurs within the project site. Suitable aquatic habitat is present within the Carmel River approximately 1,000 feet from the project site. However, the project site is substantially disturbed with limited amount of cover and no small mammal burrows, and as such, the site is unlikely to provide suitable upland habitat for CRLF. CRLF has a low potential to be present on-site, and that potential is during dispersal (moving between habitat areas) only.

Nesting Birds and Raptors

The trees and shrubs throughout the site provide suitable nesting and foraging habitat for migratory birds and raptors. During the reconnaissance survey, western scrub-jay (*Aphelocoma californica*), dark-eyed junco (*Junco hyemalis*), and American crow (*Corvus brachyrhynchos*) were observed onsite. Other species with the potential to nest in similarly developed areas (i.e., residential neighborhoods or landscaped commercial areas) include house finch (*Haemorhous mexicanus*), brewers blackbird (*Euphagus cyanocephalus*), and Cooper's hawk (*Accipiter cooperii*).

Wildlife Movement Corridors

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Other corridors may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

Habitats within habitat linkages do not necessarily need to be identical to those habitats being linked. Rather, the linkage need only contain sufficient cover and forage to allow temporary utilization by species moving between core habitat areas. Habitat linkages are typically contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Some species may require specific physical resources, such as rock outcroppings, vernal pools, or oak trees, within the habitat link for the linkage to serve as an effective movement corridor, while other more mobile or aerial species may only require discontinuous patches of suitable habitat to permit effective dispersal and/or migration. Wildlife movement corridors may occur at either large or small scales. The mountainous regions of the County may support wildlife movement on a regional scale, while riparian corridors and waterways may provide local small-scale dispersal corridors for wildlife movement among habitat patches throughout the County.

Rincon biologists reviewed the CDFW Biogeographical Information and Observation Systems BIOS (2017b) and the *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California* (Spencer et al. 2010) for information on wildlife corridors in the region. *Missing Linkages: Restoring Connectivity to the California Landscape and Critical Linkages: Bay Area & Beyond* (Penrod et al. 2013) identify movement corridors throughout California, including specific details on corridors in Monterey County. These reports were also reviewed for information on regional wildlife movement and known wildlife corridors. No Essential Habitat Connectivity Areas (ECAs) are mapped within the project site. ECAs represent principle connections between Natural Landscape Blocks. ECAs are regions in which land conservation and management actions should be prioritized to maintain and enhance ecological connectivity. ECAs are mapped based on coarse

ecological condition indicators, rather than the needs of particular species and thus serve the majority of species in each region. The project site is bordered on all sides by development and paved parking lots and does not connect with any natural habitats; therefore, it does not contain regional wildlife corridors.

The southern end of Hatton Canyon State Park (Marathon Flats), approximately 222.8 feet to the west, likely does provide a corridor for wildlife movement between Hatton Canyon and the Carmel River riparian zone. The section of the park near the site, however, is very narrow (165 feet) and consists primarily of open grassland with scattered trees, and a paved bicycle trail. The mixed woodland within the site does include wildlife corridor characteristics, such as cover, but does not provide a link between natural habitats. In summary, the project site does not contribute to any mapped ECAs and does not provide a wildlife corridor in either a local or a regional context.

4.2.3 Regulatory Setting

Federal, state, and local authorities under a variety of statutes and guidelines share regulatory authority over biological resources. The primary authority for general biological resources lies within the land use control and planning authority of a local jurisdiction, which in this instance is Monterey County. The CDFW is a trustee agency for biological resources throughout the State as defined in CEQA, and also has direct jurisdiction under the California Fish and Game Code (CFGC), which includes, but is not limited to, resources protected by the State of California under the CESA, as discussed more fully below.

Federal and State

United States Fish and Wildlife Service

The USFWS implements the Migratory Bird Treaty Act (MBTA, 16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the FESA (16 USC § 153 et seq.). The USFWS generally implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadromous species. Projects that would result in "take" of any federally listed threatened or endangered species are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. "Take" under the federal definition means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. "Harm" is further defined by the USFWS to include the killing or harming special-status species due to significant obstruction of essential behavior patterns (i.e., breeding, feeding, or sheltering) through significant habitat modifications or degradation. Proposed or candidate species do not have the full protection of FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

California Department of Fish and Wildlife (formerly California Department of Fish and Game)

The CDFW derives its authority from the California Fish and Game Code (CFGC). The California Endangered Species Act (CESA), Fish and Game Code Section 2050 et seq.) prohibits take of state listed species. Take under CESA is restricted to direct mortality of a listed species and does not

expressly prohibit indirect harm by way of habitat modification. The CDFW prohibits take for species designated as Fully Protected under the CFGC.

The CFGC sections 3503, 3503.5, and 3511 describe unlawful take, possession, or destruction of birds, nests, and eggs. Fully protected birds (Section 3511) may not be taken or possessed except under specific permit. Section 3503.5 of the CFGC protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Species of Special Concern (SSC) is a category used by the CDFW for those species, which are considered indicators of regional habitat changes or are considered potential future protected species. Species of Special Concern do not have any special legal status except that which may be afforded by the CFGC as noted above. The SSC category is intended by the CDFW for use as a management tool to include these species into special consideration when decisions are made concerning the development of natural lands. The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (Fish and Game Code Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Under Section 1913(c) of the NPPA, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of the plant(s).

Local

Monterey County 2010 General Plan

The 2010 General Conservation and Open Space Element provide goals, policies, and objectives pertaining to biological resources applicable to this project. Goal OS-5 is focused on the avoidance, minimization and mitigation of significant impacts to biological resources. The associated policies with this goal include the promotion of conservation of listed species; conservation and maintenance of critical habitat; and avoidance, minimization, and mitigation of impacts to listed species, critical habitat, and sensitive natural communities. The General Plan requires consistency with the California Public Resources Codes Section 21083.4, to mitigate the loss of oak woodlands. The public resources code requirement is that Counties must evaluate whether conversion of oak woodlands will have a significant effect on the environment. If effects are found to be significant, then mitigation is required. Mitigation may include conservation easements, conurbation to Oak Woodlands Conservation Funds, or other Mitigation Measures developed by the County.

Monterey County Ordinances

The County of Monterey Zoning Ordinance 21.64.260 calls for the protection and preservation of oaks and other types of native trees. This ordinance applies to all unincorporated areas outside of the Coastal Zone. Under this ordinance, a permit is required for the removal of any oak, madrone or redwood tree six inches or more in diameter two feet above ground level, or any landmark oak tree. A landmark oak tree is defined as; 24 inches or more in diameter when measured two feet above the ground, or trees which are visually significant, historically significant, or exemplary of their species. This permit requirement also applies to activities which may kill or destroy protected trees, such as poisoning or pruning more than one-third of living foliage. The Director of Planning may approve removal of up to three protected trees per lot in a one-year period, and the Planning Commission may approve removal of more than three protected trees with a Use Permit. In applying for a tree removal permit, the applicant must submit a complete tree report; including species, diameter two feet above ground level, estimated height, general health of the trees to be removed, as well as methods proposed for removal, protection measures for trees that are to remain, proposed replacement trees (at a one-to-one ratio) and locations.

If more than three protected trees are proposed for removal, a Forest Management Plan prepared by a professional forester (selected from the County's list of Consulting Foresters) is required. The continent and requirements of the Forest Management Plan are described in the Zoning Ordinance (Title 21, Section 21.64.260.

Carmel Valley Master Plan (CVMP)

CVMP biological policies are intended to protect natural habitats and biological resources within the Plan Area. Policy CV-3.4 requires the minimizing the alteration or disturbance of natural landforms, though the preservation of existing vegetation and habitat restoration. Policy CV-3.7 requires the preservation of areas of biological significance such as redwood forests, wetlands, native vegetation communities, and wildlife corridors. Policy CV-3.8 requires development to protect riparian vegetation, minimize erosion. Policy CV-3.10 requires landscaping and erosion control material to be comprised of plants native to Carmel Valley that are similar in habitat, form, and water requirements; and weedy species should be eradicated. Policy CV-3.11 discourages the removal of native oak, madrone and redwood trees in the Plan Area, and requires a permit for the removal of these species.

4.2.4 Impact Analysis

a. Methodology and Significance Thresholds

The evaluation of biological resources is based on a reconnaissance survey conducted by a Rincon Consultants, Inc. biologist on August 31, 2017, and a review of existing literature and sensitive species occurrence databases as described in Section 4.2.2 (Setting, Special Status Species), and summarized in Appendix C, *Special Status Species and Natural Communities*.

Evaluation Criteria

The following thresholds are based on Appendix G of the *CEQA Guidelines*. Impacts would be significant if the project would result in any of the following:

1. 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 California Department of Fish and Game or U.S. Fish and Wildlife Service;
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

As discussed above, sensitive vegetation communities, including riparian habitat, are not present and do not have the potential to occur on-site; no federal wetlands or other jurisdictional features are present on-site; no wildlife corridors are present on-site; and the proposed project is not located within the boundaries of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved conservation agreement within the County. Therefore, no impacts to these resources would occur and therefore, thresholds 2, 3, 4, and 6 are not discussed in this section. Refer to Section 4.9, *Effects Found Not to be Significant*.

b. Project Impacts and Mitigation Measures

Threshold 1:	Would the project 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 California Department of Fish and Game or U.S. Fish and Wildlife Service?

Impact B-1 IMPLEMENTATION OF THE PROPOSED PROJECT HAS THE POTENTIAL TO IMPACT SPECIAL STATUS ANIMAL SPECIES, SPECIFICALLY CALIFORNIA RED-LEGGED FROGS. IMPACTS WOULD BE SIGNIFICANT BUT MITIGABLE.

Of the special status species considered, only one species, the California Red-Legged Frog (CRLF), has the potential to occur within the project site. As mentioned in Section 4.2.2 (Setting), CRLF has a low potential to occur on-site, and only while they are dispersing from breeding ponds and wetlands, in search of upland habitat. If present, individuals could be injured or killed during construction and grading activity. Impacts to CRLF habitat are not significant due to the isolated nature of the site and surrounding urban land uses. These impacts would be potentially significant but mitigable with implementation of measures outlined below.

Mitigation Measures

To reduce impacts to special status animal species, the following Mitigation Measures shall be implemented:

B-1(a) Worker Environmental Awareness Program (WEAP)

Prior to issuance of Building or Grading permits, and prior to initiation of construction activities, including staging and mobilization, all personnel associated with project construction shall attend WEAP training, conducted by a qualified biologist, to aid workers in recognizing special status species and sensitive biological resources that may occur on-site. The program shall include identification of the special status species and their habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and Mitigation Measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. All employees shall sign a form documenting that they have attended the WEAP and understand the information presented to them.

MONITORING ACTION

The WEAP form(s) shall be submitted to the Chief of Planning for review and approval prior to issuance of building or grading permits and prior to commencement of any construction activities.

B-1(b) CRLF Pre-construction Survey and Impact Avoidance

Measures shall be taken to identify, and if possible, avoid impacts California Red legged frogs (CRLF).

Measures for identification of CRLF shall include:

- Within 48 hours prior to the start of construction activities, including staging and mobilization, a qualified biologist shall conduct pre-construction surveys in accordance with the 2005 Guidance on Site Assessments and Field Surveys for California Red-legged Frog, within suitable upland habitat (areas with small mammal burrows, blackberry brambles, or dense vegetation) on-site.

MONITORING ACTION

The results of this survey shall be submitted to the County Chief of Planning for review and approval prior to the initiation of construction activities. If no CRLFs are observed, ongoing measures described below shall be implemented but Mitigation Measure B-1 (c) may not be necessary. If CRLFs are observed, Mitigation Measure B-1 (c) shall be implemented.

- Ongoing during all construction activities, measures taken to avoid impacts to CRLF shall include:
- Ongoing monitoring by construction personnel pursuant to Mitigation Measure B-1 (a).
- Water shall not be allowed to pool in a manner that may attract CRLF.
- All food-related garbage shall be placed in tightly sealed containers at the end of each workday to avoid attracting predators. Containers shall be emptied and garbage removed from the construction site at the end of each workweek. If sealed containers are not available, garbage shall be removed from the construction site upon completion of daily activities. All garbage removed from the construction site shall be disposed of at an appropriate off-site refuse location.
- Pets shall be prohibited at the construction site.
- If, at any time during construction, federally and/or state protected species are inadvertently harmed, construction activities shall cease and Mitigation Measure B-1 (c) shall be implemented. All incidences of harm shall be reported to the CDFW and USFWS within 48 hours.

MONITORING ACTION

Prior to final inspection of grading and building permits, the applicant shall demonstrate to the satisfaction of the Chief of Planning that avoidance measures were implemented during construction. Evidence shall include photos of the site during construction and a written statement from a qualified biologist.

B-1(c) USFWS Consultation

If, at any time during project implementation, CRLFs, during any life stages, are identified within the work area and impacts to individuals cannot be avoided, construction and grading in these areas shall be halted, and the County and USFWS shall be contacted immediately to initiate Federal Endangered Species Act consultation. No CRLFs shall be captured or relocated without expressed written permission from the USFWS. If CRLF are observed, the following additional measures shall be implemented:

- All areas where this species occurs shall be avoided until the approved biologist has determined that this species is no longer present. No life stages of this species shall be relocated without a

take authorization from the USFWS and/or CDFW. If relocation is authorized, the species shall be taken to an approved relocation site prior to initiation of construction activities.

- A biologist approved by the USFWS and CDFW shall be present on-site during all ground disturbing activities, including vegetation removal, and grading. Once these activities have been completed, the approved biologist shall conduct periodic inspections of the work site of not less than once per week when construction activities are occurring in/adjacent to suitable habitat. Additional site visits should occur during rain events when special-status amphibians are likely to be mobile to ensure that they are not entering work areas. Work activities in or adjacent to suitable habitat shall be completed between April 1 and November 1 to the greatest extent feasible.

MONITORING ACTION

If at any time prior to construction activities or during construction activities, potential impacts to CRLF are identified, construction activities shall not resume until authorized by a qualified biologist and, if applicable, USFWS and CDFW. Authorization from the qualified biologist, and if applicable CDFW and USFWS, shall be submitted to the Chief of Planning for review and approval prior to commencing or recommencing construction activities.

Significance After Mitigation

With implementation of the above Mitigation Measures, potential direct and indirect impacts to sensitive animal species would be reduced to a less than significant level.

Threshold 1:	Would the project 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 California Department of Fish and Game or U.S. Fish and Wildlife Service?

Impact B-2 CONSTRUCTION OF THE PROPOSED PROJECT COULD DIRECTLY IMPACT NESTING RAPTORS AND OTHER AVIAN SPECIES PROTECTED UNDER EXISTING REGULATIONS BY CAUSING INJURY, DEATH, OR NEST FAILURE. POTENTIAL IMPACTS TO NESTING BIRDS WOULD BE SIGNIFICANT BUT MITIGABLE.

If active migratory raptor or other bird nests are located on-site during vegetation removal or construction, individuals (eggs or nestlings) may be injured or killed due to impacts to the nest and interference with normal nesting behavior. This may be caused directly through removal of vegetation with a nest in it, or through disturbance related to noise that may cause nest abandonment.

Implementation of the proposed project would require vegetation clearing prior to construction, including the removal of thirty-five (35) trees. If tree removal, land clearing, construction, and grading of the project site occurs within the nesting bird season (February 1 through August 31), the proposed project could potentially impact nesting birds protected under MBTA and CFGC. Nesting birds present within the grading footprint during grading activities would be directly and indirectly impacted by the proposed project. Listed MBTA bird species may nest on or near the project site, and may be disturbed by noise, human presence, lighting, or grading activities associated with the proposed project, which could cause nesting failure and the loss of eggs or nestlings. Disruption of nesting and loss of active bird nests from construction and site preparation would be a potentially significant but mitigable with implementation of the Mitigation Measure below.

Mitigation Measures

To reduce impacts to nesting birds, the following Mitigation Measure shall be implemented.

B-2 Pre-construction Surveys for Nesting Birds and Raptors

The nesting season generally occurs from February 1 to September 15. For tree removal or construction activities occurring during the nesting season, surveys for nesting birds and raptors covered by the CFGC and the MBTA shall be conducted by a qualified biologist no more than 14 days prior to tree removal or initiation of any construction activities. Construction activities include any initial work onsite, such as construction staging and vegetation removal. The surveys shall include the entire project site plus a 100-foot buffer for non-raptors and 250-foot buffer for raptors. If active nests are located, the qualified biologist shall establish avoidance buffers based on the species, nest location and observed behavior. Buffer shall be a minimum of 25 feet for non-raptor bird species and a minimum of 100 feet for raptor species. All construction work shall be conducted outside any designated avoidance zones. Larger than minimum buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The biologist shall have full discretion for establishing a suitable buffer. The buffer area(s) shall be closed to all construction personnel and equipment until the young are no longer reliant on the nest site. A qualified biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the avoidance buffer.

Monitoring Action: No more than 14 day prior to removal of trees or initiation of construction activities, the applicant shall submit a written statement from a qualified biologist, to the satisfaction of the Chief of Planning describing how the Mitigation Measure has been complied with.

Significance After Mitigation

With implementation of the above Mitigation Measure, potential impacts to nesting bird species would be reduced to a less than significant level.

Threshold 5:	Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Impact B-3 CONSTRUCTION OF THE PROPOSED PROJECT WOULD REQUIRE REMOVAL OF NATIVE TREES, WHICH ARE PROTECTED UNDER CVMP POLICY CV-3.11 AND MONTEREY COUNTY CODE SECTION 21.64.260. PURSUANT TO REQUIRED RECEIPT OF A TREE REMOVAL PERMIT BEFORE PROCEEDING WITH REMOVALS AND THE PREPARATION OF A FOREST MANAGEMENT PLAN, THE PROJECT WOULD NOT CONFLICT WITH EITHER POLICY OR ORDINANCE. THEREFORE, POTENTIAL IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The Monterey County General Plan requires consistency with the California Public Resources Code Section 21083.4 to mitigate the loss of oak woodlands. Although oaks and associated oak woodland species are present in the Mixed Woodland, the number of non-native species is not consistent with a natural oak woodland community. Additionally, the lack of connectivity to a natural vegetation community and the level of disturbance make the quality of this habitat poor. The removal of these remnant oak trees would not result in a significant impact.

CVMP Policy CV-3.11 discourages the removal healthy native oak, madrone, and redwood trees within the CVMP Area. This policy is codified in Monterey County Code Section 21.64.260(C). Native oaks, cottonwood, willow and sycamore trees occur within the project site, primarily along the

eastern border. The project would involve the removal of trees along the eastern border of the project site to construct the Market, Store A, and Store B.

Pursuant to Section 21.64.260(C)(2) of the Monterey County Code, oak, madrone, or redwood trees six inches or more in diameter may be removed within the CVMP area with approval of a tree removal permit. Therefore, a tree removal permit, as outlined in Section 21.64.260(D), would be required. This would include a description of the purpose for the tree removal and identification of the size, location, and species of replacement trees. A Tree Plan, including all existing trees, indicating trees to be removed and including tree protection measures has been prepared in submittal of a permit. Additionally, since more than three trees are proposed for removal (35 total), a Forest Management Plan prepared by a County approved Forester is also required. Upon approval of the Forest Management Plan and Use Permit for tree removal, the project would not conflict with local policies or ordinances related to tree preservation or removal. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Cumulative Impacts

The geographic scope of this cumulative impact analysis is the Carmel Valley. This geographic extent is appropriate for biological resources as it represents a generally similar composition of plants and wildlife**.**

The majority of the project site has been previously developed (including currently landscaped areas), which removed the majority of natural habitat. The remainder of the site consists of non-native annual grassland and Mixed Woodland. California red-legged frog, as described above, have a low potential to occur within the project site, and impacts to this species in conjunction with expected development throughout the Carmel Valley could be significant given the already reduced distribution and abundance of this species as a result of habitat loss. However, Mitigation Measures to avoid and minimize impacts to CRLF and nesting birds are required and would reduce impacts to a less than significant level. In combination with similar measures to protect sensitive biological resources on other development projects in the Carmel Valley, it is anticipated that cumulative impacts on special status species would not be cumulatively considerable and the project's contribution would be less than significant.

Although implementation of the project would remove a small amount of marginal wildlife foraging habitat and native trees, the Mixed Woodland contained within the site has been completely surrounded by development and urban areas, and is too small to function as habitat for sensitive species. The project is not expected to contribute significantly to cumulative impacts to biological resources, when combined with other expected development in the area, and cumulative impacts would be less than significant.

Compliance with applicable federal, state, and local regulations relating to preservation of sensitive species in these areas, and adherence to the proposed Mitigation Measures outlined above for each of the specific potential impacts to biological resources, would reduce cumulative biological impacts to a less than significant level. The site is located in a developed area, and is not connected to larger natural habitats. Development of the site including the disturbed areas and coast live oak woodland would not further fragment surrounding habitat. The proposed project would not fragment off-site Carmel River or Hatton Canyon habitats, either on a project specific basis or cumulatively.

Large areas of open space are identified in the 2010 General Plan to protect and preserve a wide variety of habitats and wildlife corridors. The project site is designated for light commercial use and is surrounded by developed areas.

4.3 Climate Change

4.3.1 Summary

Table 15 summarizes the identified environmental impacts, proposed Mitigation Measures, and residual impacts of the proposed project with regard to climate change. Additional detail is provided in Section 4.3.3 (Impact Analysis).

Table 15 Impact and Mitigation Summary: Climate Change

Impact	Mitigation Measures	Residual Impact
Impact CC-1. The proposed project would generate GHG emissions during construction and operation that exceed the applicable efficiency threshold. This impact would be significant but mitigable.	**CC-1 GHG Reduction Plan** Prior to consideration of a Use Permit for the project, the project developer shall prepare a project GHG Reduction Plan to reduce annual GHG emissions over the operational lifetime of the project. The GHG reduction plan shall be capable of maintaining annual emissions from the project at or below 1,225 MT CO_2e per year. If GHG emissions cannot be reduced to 1,225 MT CO_2e per year through compliance with such a plan, the applicant shall purchase carbon offsets in an amount sufficient to achieve annual emissions of 1,225 MT CO2e per year, prior to issuance of grading or building permits. Carbon offsets shall be purchased from a validated source to offset annual GHG emissions. The plan would be implemented on-site by the project applicant and may include, but is not limited to, the following measures. **On-site Emission Reduction Measures** ▪ Installing energy efficient equipment, appliances, heating, and cooling exceeding California Green Building Code standards ▪ Installing renewable energy sources ▪ Implementing energy efficient building design exceeding California Building Code requirements ▪ Installing green roofs ▪ Promoting water conservation and recycling, such as through the use of irrigation controllers ▪ Purchasing carbon offsets through an accredited program **Mobile Source Emission Reduction Measures** ▪ Promoting alternative fuel vehicles, such as by providing additional ZEV charging infrastructure and designating parking spaces for ZEV or hybrid vehicles ▪ Providing incentives and outreach for future tenants to promote employee ridesharing and transit use **Monitoring Action:** The GHG Reduction Plan shall be prepared by the applicant and submitted to the Chief of Planning for review and approval prior to consideration of the Use Permit at the Planning Commission. Applicable elements of the GHG Reduction Plan shall be reflected on project site plans prior to approval of grading or building permits and implemented in the project prior to final inspection.	Implementation of Mitigation Measure CC-1 would reduce GHG emission impacts to less than significant.

Impact	Mitigation Measures	Residual Impact
Impact CC-2. The proposed project would conflict with local and statewide policies and regulations intended to reduce GHG emissions. Impacts would be significant but mitigable.	Implementation of Mitigation Measure **CC-1 GHG Reduction Plan** is required.	Implementation of Mitigation Measure CC-1 would reduce impacts to less than significant.

4.3.2 Setting

a. Climate Change and Greenhouse Gases

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

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHG). GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such a hydrofluorocarbons (HFC) and perfluorocarbons (PFC), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Observations of CO_2 concentrations, globally averaged temperature, and sea level rise are generally well within the range of the extent of the earlier IPCC projections. The recently observed increases in CH_4 and N_2O concentrations are smaller than those assumed in the scenarios in the previous assessments. Each IPCC assessment has used new projections of future climate change that have become more detailed as the models have become more advanced.

Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6 (USEPA 2017a). Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of gas emissions, referred to as "carbon dioxide equivalent" (CO_2e), and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a GWP of one. By contrast, methane has a GWP of 28, meaning its global warming effect is 28 times greater than carbon dioxide on a molecule per molecule basis within a 100-year timescale (IPCC 2014).

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

Carbon Dioxide

The global carbon cycle is made up of large carbon flows and reservoirs. Billions of tons of carbon in the form of CO_2 are absorbed by oceans and living biomass (i.e., sinks) and are emitted to the atmosphere annually through natural processes (i.e., sources). When in equilibrium, carbon fluxes among these various reservoirs are roughly balanced (GCRP 2009). CO_2 was the first GHG demonstrated to be increasing in atmospheric concentration, with the first conclusive measurements being made in the last half of the 20th century. Concentrations of CO_2 in the atmosphere have risen approximately by 40 percent since the industrial revolution. The global atmospheric concentration of CO_2 has increased from a pre-industrial value of about 280 ppm to 391 ppm (IPCC 2014), yet as of August 7, 2017, the Mauna Loa Observatory located in Hawaii recorded the monthly average for CO_2 concentrations in July 2017 as 407.07 ppm (NOAA 2017a). The average annual CO_2 concentration growth rate was larger between 1995 and 2005 (average: 1.9 ppm per year) than it has been since the beginning of continuous direct atmospheric measures (1960-2005 average: 1.4 ppm per year), although there is year-to-year variability in growth rates (NOAA 2017b).

Methane

Methane (CH_4) is an effective absorber of radiation, though its atmospheric concentration is less than that of CO_2 and its lifetime in the atmosphere is limited to 10 to 12 years. It has a global warming potential (GWP) approximately 28 times that of CO_2 in a 100-year timeframe. Over the last 250 years, the concentration of CH_4 in the atmosphere has increased by 150 percent (IPCC 2014). Although methane emissions appeared to level off following the late 1990s, atmospheric measurements have shown renewed increases since 2007 (IPCC 2014). Anthropogenic sources of CH_4 include enteric fermentation associated with domestic livestock, landfills, natural gas and petroleum systems, agricultural activities, coal mining, wastewater treatment, stationary and mobile combustion, and certain industrial processes (USEPA 2017a).

Nitrous Oxide

Concentrations of nitrous oxide (N_2O) began to rise at the beginning of the industrial revolution and continue to increase at a relatively uniform growth rate (NOAA 2017b). N_2O is produced by

microbial processes in soil and water, including those reactions that occur in fertilizers that contain nitrogen, fossil fuel combustion, and other chemical processes. Use of these fertilizers has increased over the last century. Agricultural soil management and mobile source fossil fuel combustion are the major sources of N_2O emissions. The GWP of nitrous oxide is approximately 310 times that of CO_2 over a period of 100 years.

Fluorinated Gases (HFCs, PFCs, and SF_6)

Fluorinated gases, such as HFCs, PFCs, and SF_6, are powerful GHGs that are emitted from a variety of industrial processes. Fluorinated gases are used as substitutes for ozone depleting substances, such as chlorofluorocarbons (CFC), hydrochlorofluorocarbons (HCFC), and halons, which have been regulated since the mid-1980s because of their ozone-destroying potential and are phased out under the Montreal Protocol (1987) and Clean Air Act Amendments of 1990. Electrical transmission and distribution systems account for most SF_6 emissions, while PFC emissions result from semiconductor manufacturing and as a by-product of primary aluminum production. Fluorinated gases are typically emitted in smaller quantities than CO_2, CH_4, and N_2O, but these compounds have much higher GWPs. SF_6 is the most potent GHG the IPCC has evaluated and has a 100-year GWP of 23,900 (United Nations Climate Change [UNCC] 2014).

b. Statewide Greenhouse Gas Emissions Inventory

Globally, approximately 33,733 million metric tons (MMT, or Gigatonnes) of CO_2 were added to the atmosphere through the combustion of fossil fuels in 2014 (USEPA 2017b). CO_2 emissions from fossil fuel combustion and industrial processes contributed about 65 percent of total emissions in 2010. Of anthropogenic GHGs, carbon dioxide was the most abundant accounting for 76 percent of total 2010 emissions. Methane emissions accounted for 16 percent of the 2010 total, while nitrous oxide and fluorinated gases account for 6 and 2 percent respectively (IPCC 2014).

In 2014, the United States emitted 6,586.7 MMT CO_2e, accounting for approximately 16 percent of global carbon emissions (USEPA 2017b). Within the United States, fossil fuel combustion accounted for 93.3 percent of CO_2 emissions in 2015, while CO_2 accounted for approximately 82.2 percent of total U.S. emissions. Between 1990 and 2015, CO_2 emissions from fossil fuel combustion increased from 4,740.3 MMT CO_2e to 5,049.8 MMT CO_2e, representing a 6.5 percent total increase over the 26-year period (USEPA 2017b). Of the total U.S. GHG emissions accounted for in 2015, approximately 29 percent can be attributed to electricity production, 27 percent to transportation, 21 percent to industrial processes, 12 percent to commercial and residential uses, 9 percent to agricultural activities, and 2 percent to landfills (USEPA 2017b).

Based upon the 2017 Edition of the CARB's California Greenhouse Gas Inventory, California produced 440.4 MMT CO_2e in 2015 (CARB 2017b). The major source of GHG in California is transportation, contributing 39 percent of the state's total GHG emissions. Industrial sources are the second largest source of the state's GHG emissions at 23 percent (CARB 2017b). California emissions are due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate. The CARB has projected statewide unregulated GHG emissions for the year 2020 will be 509 MMT CO_2e (CARB 2017c). These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions.

c. Potential Effects of Climate Change

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

According to the CalEPA's *2010 Climate Action Team Biennial Report*, potential impacts of climate change in California may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (CalEPA 2010). Below is a summary of some of the potential effects that could be experienced in California resulting from climate change.

Sea Level Rise

According to *The Impacts of Sea-level Rise on the California Coast*, prepared by the California Climate Change Center (CCCC) (2009a), climate change has the potential to induce substantial sea level rise in the coming century. The rising sea level increases the likelihood and risk of flooding. The study identifies a sea level rise on the California coast over the past century of approximately eight inches. Based on the results of various climate change models, sea level rise is expected to continue. The California Climate Adaptation Strategy (CNRA 2009) estimates a sea level rise of up to 55 inches by the end of the 21st century.

Air Quality

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

Water Supply

Analysis of paleoclimatic data (such as tree ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the western U.S., including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future water supplies in California; however, the

average early spring snowpack in the Sierra Nevada decreased by about 10 percent in the last century, a loss of 1.5 million acre feet of snowpack storage. During the same period, sea level rose eight inches along California's coast. California's temperature has risen 1°F, mostly at night and during the winter, with higher elevations experiencing the highest increase. Many Southern Californian cities have experienced their lowest recorded annual precipitation twice within the past decade. In a span of only two years, Los Angeles experienced both its driest and wettest years on record (CCCC 2009a).

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

Hydrology

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

Agriculture

California is home to a $30 billion agriculture industry that produced half of the country's fruits and vegetables. Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater air pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality.

Ecosystems and Wildlife

Climate change and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs is likely to accelerate the rate of climate change. Scientists project that the average global surface temperature could rise by 1.0-4.5°F (06.-2.5°C) in the next 50 years, and 2.2-10°F (1.4-5.8°C) in the next century, with substantial regional variation. Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent in other regions. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes, such as carbon cycling and storage (Parmesan 2006, Parmesan and Galbraith 2004).

d. Local Effects of Climate Change

While the above discussion identifies the possible effects of climate change at a global and potentially statewide level, regional and local predictions are often based on downscaling statewide models (CalEPA 2010). However, observable effects of climate change have already been witnessed on the environment. Glaciers have shrunk, ice on rivers and lakes is breaking up earlier, plant and animal ranges have shifted, and floras are flowering sooner (National Aeronautics and Space Administration [NASA] 2017). For Monterey County, one of the main concerns is sea level rise. Even small amounts of sea level rise make rare floods more common by adding to tides and storm surge (Climate Central 2016). Climate Central, an independent organization of scientists and journalists researching and reporting about climate change and its impact on the public, has projected a three-foot sea level rise in Monterey County by the year 2100, from the 1992 baseline (Climate Central 2016). This translates to an eight percent multi-year risk of at least one flood exceeding three feet from 2016 to 2030, an 80 percent risk from 2016 to 2050, and a 100 percent risk by 2100 (Climate Central 2016).

The Pacific Institute – a global water think tank that endeavors to inform decision-makers on climate change effects such as creating assessments for policy-makers on climate change and its impacts on fresh water supplies – created a map in coordination with Caltrans and the California Energy Commission (CEC) that illustrates sea level rise potential for different sections of California. This *California Flood Risk: Sea Level Rise Monterey Quadrangle* map emphasizes certain areas along the Monterey Peninsula most at risk to rising sea levels and flooding, including coastal Monterey, the western coasts of Pacific Grove, and the mouth of the Carmel River (Pacific Institute 2009). The map also indicates that the southeastern-most corner of the project site would be inundated during a 100-year flood event after sea levels have risen 1.4 meters (approximately 55 inches) (Pacific Institute 2009).

4.3.3 Regulatory Setting

Federal

USEPA Final Rule for GHG Emission Reporting

The United States Supreme Court in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) held that the USEPA has the authority to regulate motor vehicle GHG emissions under the federal Clean Air Act.

The USEPA issued a Final Rule for mandatory reporting of GHG emissions facilities that emit more than 25,000 metric tons (MT) CO_2e per year in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines, and requires annual reporting of emissions. The first annual reports for these sources were due in March 2011.

On May 13, 2010, the USEPA issued a Final Rule that took effect on January 2, 2011, setting a threshold of 75,000 MT CO_2e per year for GHG emissions. New and existing industrial facilities that meet or exceed that threshold will require a permit after that date. On November 10, 2010, the USEPA published the "PSD and Title V Permitting Guidance for Greenhouse Gases." The USEPA's guidance document is directed at state agencies responsible for air pollution permits under the Federal Clean Air Act to help them understand how to implement GHG reduction requirements while mitigating costs for industry. It is expected that most states will use the USEPA's new

guidelines when processing new air pollution permits for power plants, oil refineries, cement manufacturing, and other large pollution point sources.

Tailoring Rule, Title V Permitting

On January 2, 2011, the USEPA implemented the first phase of the Tailoring Rule for GHG emissions Title V Permitting. Under the first phase of the Tailoring Rule, all new sources of emissions are subject to GHG Title V permitting if they are otherwise subject to Title V for another pollutant and they emit at least 75,000 MT of CO_2e per year. Under Phase One, no sources were required to obtain a Title V permit solely due to GHG emissions. Phase Two of the Tailoring Rule went into effect July 1, 2011. At that time new sources were subject to GHG Title V permitting if the source emits 100,000 MT CO_2e per year, or they are otherwise subject to Title V permitting for another pollutant and emit at least 75,000 MT CO_2e per year.

In 2012, the USEPA issued the final rule that remains the GHG permitting thresholds that were established in Phases One and Two of the GHG Tailoring Rule. These emission thresholds determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

State

The California Air Resources Board (CARB) is responsible for the coordination and oversight of State and local air pollution control programs in California. Various statewide and local initiatives to reduce the State's contribution to GHG emissions have raised awareness about climate change and its potential for severe long term adverse environmental, social, and economic effects.

Assembly Bill 1493

Assembly Bill (AB) 1493 (2002), referred to as "Pavley," requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, USEPA granted the waiver of Clean Air Act preemption to California for its GHG emission standards for motor vehicles beginning with the 2009 model year. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG," will cover 2017 to 2025.

Executive Order S-3-05

In 2005, the Governor issued Executive Order (EO) S-3-05, establishing statewide GHG emissions reduction targets. EO S-3-05 provides that by 2012, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent of 1990 levels (CalEPA 2006). In response to EO S-3-05, CalEPA created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the "2006 CAT Report") (CalEPA 2006). The 2006 CAT Report identified a recommended list of strategies that the state could pursue to reduce GHG emissions. These are strategies that could be implemented by various state agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the state agencies. The strategies include the reduction of passenger and light-duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increase recycling, and landfill methane capture, etc.

Assembly Bill 32

California's major initiative for reducing GHG emissions is outlined in AB 32, the "California Global Warming Solutions Act of 2006," signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 (essentially a 15 percent reduction below 2005 emission levels; the same requirement as under S-3-05), and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions.

After completing a comprehensive review and update process, the CARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CO_2e. The Scoping Plan was approved by CARB on December 11, 2008, and includes measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. The Scoping Plan includes a range of GHG reduction actions that may include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms.

Executive Order S-01-07 was enacted on January 18, 2007. The order mandates that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020.

Senate Bill 97

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

CARB Resolution 07-54

CARB Resolution 07-54 establishes 25,000 MT of GHG emissions as the threshold for identifying the largest stationary emission sources in California for purposes of requiring the annual reporting of emissions. This threshold is just over 0.0005 percent of California's total inventory of GHG emissions for 2004.

Senate Bill 375

SB 375, signed in August 2008, enhances the State's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from vehicles for 2020 and 2035. In addition, SB 375 directs each of the State's 18 major Metropolitan Planning Organizations (MPO) to prepare a Sustainable Communities Strategy (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan (RTP). On September 23, 2010, CARB adopted final regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Monterey Bay Air Resources District (MBARD) was assigned targets of a 0 percent per capita reduction in GHG from transportation sources from 2005 levels by 2020 and a 5 percent per capita reduction in GHGs from transportation sources from 2005 levels by 2035.

Senate Bill 32

On September 8, 2016, the Governor signed Senate Bill 32 (SB 32) into law, extending AB 32 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. To meet reduction targets, the 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies, such as SB 350 and SB 1383 (see below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of six MT CO_2e by 2030 and two MT CO_2e by 2050 (CARB 2017).

Senate Bill 350

Adopted on October 7, 2015, SB 350 supports the reduction of GHG emissions from the electricity sector through a number of measures, including requiring electricity providers to achieve a 50 percent renewables portfolio standard by 2030, a cumulative doubling of statewide energy efficiency savings in electricity and natural gas by retail customers by 2030.

Senate Bill 1383

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

- Methane: 40 percent below 2013 levels
- Hydrofluorocarbons: 40 percent below 2013 levels
- Anthropogenic black carbon: 50 percent below 2013 levels

The bill also requires CalRecycle, in consultation with the state board, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

Senate Bill 97

Pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. As previously noted, the adopted State CEQA Guidelines provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. To date, the San Luis Obispo Air Pollution Control District (SLOAPCD) and the San Joaquin Air Pollution Control District (SJVAPCD) have adopted quantitative significance thresholds for GHGs. The MBARD has not adopted any recommended quantitative thresholds of significance for GHG emissions.

Regional

Sustainable Communities Strategy

In accordance with SB 375, the Association of Monterey Bay Area Governments (AMBAG) has prepared a Metropolitan Transportation Plan/ Sustainable Communities Strategy (MTP/SCS) that integrates land use and transportation planning at a regional level to achieve CARB-designated GHG emission reduction targets from passenger vehicles. AMBAG's most recently adopted MTP/SCS is *Moving Forward Monterey Bay 2035*, which was approved in June 2014 and amended in January 2017. AMBAG's 2040 MTP/SCS is scheduled for adoption in June 2018.

Local

Municipal Climate Action Plan

In 2013, Monterey County adopted its *Municipal Climate Action Plan* (MCAP). This MCAP provides descriptions of the steps being taken by Monterey County to reduce greenhouse gas (GHG) emissions associated with its municipal operations. The MCAP also illustrates three potential paths towards the County's goals of reducing GHG emissions to a level that is 15 percent below the 2005 emissions level by 2020, which is consistent with AB 32.

Monterey County General Plan

In addition, the Monterey County General Plan Conservation and Open Space Element include several goals and policies that encourage energy and water conservation techniques and the use of renewable resources. These includes Policy OS-9.1, which encourages the use of solar, wind, and other renewable resources for agriculture, residential, commercial, industrial, and public building use; Policy OS-9.2, which directs development toward cities, Community Areas, and Rural centers where energy expended for transportation and provision of services can be minimized; and Policy OS-9.6, which requires the incorporation of features that reduce energy used for transportation, including pedestrian and bicycle pathways and access to transit.

Monterey Bay Community Power

Monterey Bay Community Power was formed to provide locally-controlled, carbon-free electricity to residents and businesses in Monterey, San Benito and Santa Cruz Counties through the Community Choice Energy (CCE) model established by the State of California. MBCP began serving electricity to businesses in March 2018. Current PG&E customers will be automatically enrolled in MBCP. If the project is served by MBCP, GHG emissions associated with energy use for ongoing operations of the buildings on the site would be significantly less than under the existing PG&E services.

Community Climate Action Plan (CCAP)

Monterey County does not currently have an adopted Community Climate Action Plan.

4.3.4 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

Calculations of CO_2, CH_4, and N_2O emissions are provided to identify the magnitude of potential project effects. The analysis focuses on CO_2, CH_4, and N_2O since these comprise 98.9 percent of all GHG emissions by volume (IPCC 2007) and are the GHG emissions that the project would emit in the greatest quantities. Fluorinated gases, such as HFC, PFCs, and SF_6 were not used in this analysis, as they are primarily associated with industrial processes and the proposed project is for retail development and does not include an industrial component. Emissions of all GHGs are converted into metric tons of carbon dioxide equivalent (MT CO_2e), which provides the mass of CO_2 that would have an equivalent global warming effect as the emission. While minimal amounts of other GHGs (such as chlorofluorocarbons [CFC]) would be emitted, they would not substantially add to the calculated CO_2e amounts. Calculations are based on the California Air Pollution Control Officers Association (CAPCOA) *CEQA & Climate Change* white paper (January 2008).

Construction Emissions

Construction of the proposed project would generate temporary GHG emissions primarily due to the operation of the construction equipment and truck trips. Construction emissions were estimated using CalEEMod based on modeling inputs for the land uses, area of disturbance, and export and import fill volumes, as well as model defaults for construction phase length, equipment used, haul trip lengths, and other parameters. Appendix B provides modeling inputs and results.

To estimate the annual emissions that would result from construction activity associated with the project, annual GHG emissions were quantified in CalEEMod and amortized over 50 years, as recommended by the SLOAPCD. The amortized construction emissions are added to the annual average operational emissions to get the project's total annual emissions.

Operational Emissions

CalEEMod provides operational emissions of CO_2 and CH_4. Emissions from energy use include emission from electricity and natural gas use. The emissions factors for natural gas combustion are based on USEPA's AP-42 (*Compilation of Air Pollutant Emissions Factors*) and CCAR. Electricity Emissions are calculated by multiplying the energy use with the carbon intensity of the utility district per kilowatt hour (CAPCOA 2010). The default electricity consumption values in CalEEMod include the California Energy Commission (CEC) sponsored California Commercial End User Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies.

Operational emissions, calculated in CalEEMod, are related to area sources, waste generation, water use, and mobile sources. Emissions associated with area sources, including consumer products, landscape maintenance, and architectural coatings, utilize standard emission rates from CARB, USEPA, and district –in this case MBARD – supplied emission factor values (CAPCOA 2010). Waste generation emissions are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CAPCOA 2017). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle). Water and wastewater usage are based on the default electricity intensity from the CEC's 2006 Refining

Estimates of Water-Related Energy Use in California, using the average values of Northern and Southern California.

CalEEMod quantifies CO_2 and CH_4 emissions from project vehicle trips. For consistency with the traffic study prepared for the project in December 2017 by Keith Higgins Traffic Engineer (KHTE) (Appendix G), CalEEMod was adjusted to incorporate a trip generation rate of 91.77 trips per 1,000 square feet (sf) for weekdays, and 127.01 trips per 1,000 square feet (sf) for Saturdays for retail uses, as well as a 75 percent primary trip generation rate. Additionally, because CalEEMod does not calculate N_2O emissions from mobile sources, N_2O emissions were quantified using the CCAR General Reporting Protocol (January 2009) direct emissions factors for mobile combustion, VMT for each trip-generating land use (calculated by CalEEMod based on trip generation rates), and the vehicle fleet mix. N_2O calculations and conversion into MT CO_2e are provided in Appendix B.

A limitation of the quantitative analysis of emissions from mobile combustion is that emission models, such as CalEEMod, evaluate aggregate emissions, meaning that all vehicle trips and related emissions assigned to a project are assumed to be new trips and emissions generated by the project itself. Such models do not demonstrate, with respect to a regional air quality impact, what proportion of these emissions are actually "new" emissions, specifically attributable to the proposed project. For most projects, the main contributor to regional air quality emissions is from motor vehicles; however, the quantity of vehicle trips appropriately characterized as "new" is usually uncertain as traffic associated with a project may be relocated trips from other locales. Therefore, because the proportion of "new" versus relocated trips is unknown, the VMT estimate generated by CalEEMod is used as a conservative, worst-case estimate.

Thresholds of Significance

According to the adopted *State CEQA Guidelines*, impacts related to GHG emissions from the proposed project would be significant if the project would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution toward an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

The State, MBARD, and Monterey County have not adopted GHG emissions thresholds for land use projects, and no GHG emissions reduction plan with established GHG emissions reduction strategies has yet been adopted. MBARD is evaluating a percentage-based threshold option (MBARD 2013); however, MBARD does not have a formal policy recommending specific thresholds.

Since MBARD has not adopted thresholds, MBARD encourages lead agencies to consider a variety of metrics for evaluating GHG emissions and related Mitigation Measures as they best apply to the specific project (MBARD 2017). MBARD has recommended using the adopted SLOAPCD quantitative threshold for land use projects. As mentioned under Section 4.3.2, *Regulatory Setting*, SLOAPCD, the air district immediately south and adjacent to the MBARD, has adopted quantitative GHG

significance thresholds of 4.9 MT CO_2e per service population per year (SLOAPCD 2012). The service population is the total residents and employees accommodated by a project. For the proposed project, which would consist of commercial and retail uses, the service population would be the number of employees associated with the project, or an estimated 250 people.

b. Project Impacts and Mitigation Measures

Threshold 1:	Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact CC-1 THE PROPOSED PROJECT WOULD GENERATE GHG EMISSIONS DURING CONSTRUCTION AND OPERATION THAT EXCEED THE APPLICABLE EFFICIENCY THRESHOLD. THIS IMPACT WOULD BE SIGNIFICANT BUT MITIGABLE.

Construction Emissions

Project construction would generate GHG emissions primarily associated with construction vehicle trips. Table 16 summarizes the project's construction emissions as estimated using CalEEMod. As shown therein, construction of the project would emit 492.8 MT CO_2e. Amortized over an expected lifespan of 50 years, construction emissions would total 9.9 MT CO_2e per year.

Table 16 Estimated Construction Emissions of Greenhouse Gases

	Emissions (MT CO_2e)
2018 Emissions	321.1
2019 Emissions	171.7
Total Emissions	492.8
Amortized over 50 years	9.9

See Appendix B for CalEEMod worksheets.
MT = metric tons
CO_2e = carbon dioxide equivalent

Operational Emissions

Operational GHG emissions were estimated for area, energy, waste, water, and mobile CO_2 and CH_4 emissions using CalEEMod, and for mobile N_2O emissions as described above. As shown in Table 17, the project would generate annual emissions of less than 0.1 MT CO_2e from area sources, 391.6 MT CO_2e from energy use, 75.5 MT CO_2e from waste, 7.8 MT CO_2e from water use, and 4,018.6 MT CO_2e from mobile sources. Net operational emissions would total 4,503.3 MT CO_2e per year. This estimate accounts for the project's proximity to transit through the application of Mitigation Measure LUT-5, "Increase Transit Accessibility" in CalEEMod. Nevertheless, this is likely a conservative estimate of future project emissions as CalEEMod does not currently incorporate emission reductions expected to result from recently adopted or anticipated statewide policies included in the 2017 Scoping Plan, such as higher fuel efficiencies and promotion of hybrid and zero-emission vehicles. In addition, as discussed above in Section 4.3.3, *Regulatory Setting,* the project would likely be supplied with carbon-free electricity through Monterey Bay Community Power, which would greatly reduce or eliminate GHG emissions associated with electricity consumption. As shown in Table 17, emissions related to energy consumption, which includes natural gas for space

heating, as well as electricity, comprise approximately 8.7 percent of the project's annual emissions. However, the majority (89 percent) of the project's GHG emissions would result from vehicle trips generated by the project.

Table 17 Combined Annual Emissions of Greenhouse Gases

Emission Source	Annual Emissions (MT CO_2e)
Construction (Amortized)	9.9
Operational	
Area	<0.1
Energy	391.6
Solid Waste	75.5
Water	7.8
Mobile	
CO_2 and CH_4	3,838.4
N_2O	180.2
Total	**4,503.3**
Service Population	250
Project Efficiency	18.0 MT CO_2e/service population/year
Threshold	4.9 MT CO_2e/service population/year
Threshold Exceeded?	Yes

Sources: See Appendix B for CalEEMod worksheets and N_2O calculations

The combined annual emissions associated with the proposed project would total an estimated 4,503.3 MT CO_2e per year, which would equate to 18.0 MT CO_2e per year per service population. As mentioned under the Methodology section of this analysis, the most appropriate significance threshold to be applied to the proposed project is SLOAPCD's efficiency threshold of 4.9 MT CO_2e per year. Thus, the project would result in annual GHG emissions that would exceed this significance threshold; this would continue to be true even if all energy consumed was carbon-free, which would result in annual emissions of 16.4 MT CO_2e per year per service population. Therefore, the proposed project would have a significant but mitigable environmental impact due to GHG emissions.

Mitigation Measures

Based on the SLOAPCD's target efficiency threshold level of 4.9 MT CO_2e per person and a service population of 250 people, the project would need to reduce its annual emissions down to 1,225 MT CO_2e to meet the target threshold. As stated above, 89 percent of the project's GHG emissions, or 4,018.6 MT CO_2e, would result from vehicle trips generated by the project. Reducing vehicle trips and vehicle emissions is largely addressed at the regional level and statewide level through land use and transportation policies, such as SB 375, and vehicle emission policies, programs, and incentives, such as the low carbon fuel standard, Clean Cars Program, and ZEV program. While project-level options for reducing vehicle trips are limited, the following Mitigation Measure would help reduce the project's GHG emissions impact.

CC-1 GHG Reduction Plan

Prior to consideration of a Use Permit for the project, the project developer shall prepare a project GHG Reduction Plan to reduce annual GHG emissions over the operational lifetime of the project. The GHG reduction plan shall be capable of maintaining annual emissions from the project at or below 1,225 MT CO_2e per year. If GHG emissions cannot be reduced to 1,225 MT CO_2e per year through compliance with such a plan, the applicant shall purchase carbon offsets in an amount sufficient to achieve annual emissions of 1,225 MT CO2e per year, prior to issuance of grading or building permits. Carbon offsets shall be purchased from a validated[2] source to offset annual GHG emissions.

The plan would be implemented on-site by the project applicant and may include, but is not limited to, the following measures:

ON-SITE EMISSION REDUCTION MEASURES

- Installing energy efficient equipment, appliances, heating, and cooling exceeding California Green Building Code standards
- Installing renewable energy sources
- Implementing energy efficient building design exceeding California Building Code requirements
- Installing green roofing
- Promoting water conservation and recycling, such as through the use of irrigation controllers
- Purchasing carbon offsets through an accredited program

MOBILE SOURCE EMISSION REDUCTION MEASURES

- Promoting alternative fuel vehicles, such as by providing additional ZEV charging infrastructure and designating parking spaces for ZEV or hybrid vehicles
- Providing incentives and outreach for future tenants to promote employee ridesharing and transit use

Monitoring Action

The GHG Reduction Plan shall be prepared by the applicant and submitted to the Chief of Planning for review and approval prior to consideration of the Use Permit at the Planning Commission. Applicable elements of the GHG Reduction Plan shall be reflected on project site plans prior to approval of grading or building permits and implemented in the project prior to final inspection.

Significance After Mitigation

Implementation of Mitigation Measure CC-1 would reduce GHG emission impacts to a less than significant level.

[2] Validated sources are carbon offset sources that follow approved protocols and use third-party verification. At this time, appropriate offset providers include only those that have been validated using the protocols of the Climate Action Registry, the Gold Standard, or the Clean Development Mechanism (CDM) of the Kyoto Protocol. Credits from other sources will not be allowed unless they are shown to be validated by protocols and methods equivalent to or more stringent than the CDM standards. For more information on responsible purchasing of carbon offsets, see the Responsible Purchasing Network's *Responsible Purchasing Guide* at: http://www.responsiblepurchasing.org/purchasing_guides/carbon_offsets/purchasing_guide.pdf .

Threshold 2: Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Impact CC-2 THE PROPOSED PROJECT WOULD CONFLICT WITH LOCAL AND STATEWIDE POLICIES AND REGULATIONS INTENDED TO REDUCE GHG EMISSIONS. IMPACTS WOULD BE SIGNIFICANT BUT MITIGABLE.

Monterey County does not currently have an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. However, the Monterey County General Plan contains four policies intended to reduce GHG emissions from development projects. At the regional level, AMBAG's 2035 MTP/SCS establishes goals and policies to support GHG emission reductions from passenger vehicles. However, the document does not contain specific strategies, goals, or policy objectives that would apply to the project; thus, the project is not evaluated for consistency with the 2035 MTP/SCS.

Table 18 evaluates the project's consistency with applicable policies in the 2010 Monterey County General Plan and illustrates that, as an infill project served by transit; the project would be consistent with applicable General Plan policies.

Table 18 Project Consistency with 2010 Monterey County General Plan

Policy	Project Consistency
OS-9.1. The use of solar, wind and other renewable resources for agricultural, residential, commercial, industrial, and public building applications shall be encouraged.	**Consistent** In order to reduce energy required for water delivery and treatment, the proposed project includes a subsurface irrigation system for its landscaped areas that would be supplied in part by roof runoff from a rainwater harvesting system.
OS-9.2. Development shall be directed toward cities, Community Areas, and Rural Centers where energy expended for transportation and provision of services can be minimized.	**Consistent** The proposed project is located immediately across the street from the existing Crossroads Carmel Shopping Center and would add retail development to an area already oriented for retail development.
OS-9.6. Development shall incorporate features that reduce energy used for transportation, including pedestrian and bicycle pathways, access to transit, and roadway design as appropriate.	**Consistent** The project would be served by public transit (Monterey-Salinas Transit Bus Route 24) and would provide bicycle lockers and bicycle racks.
OS-10.2. Mass transit, bicycles, pedestrian modes of transportation, and other transportation alternatives to automobiles shall be encouraged.	**Consistent** See Policy OS-9.6 consistency analysis above.

As discussed in Section 4.3.3, *Regulatory Setting*, AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020. The SLOAPCD efficiency threshold is designed to achieve reductions consistent with AB 32 statewide GHG reduction goals. As described above, the proposed project would exceed SLOAPCD efficiency thresholds. Thus, the proposed project would conflict with AB 32 policies to reduce GHG emissions.

SB 32 further codified the State's GHG emission reduction target of 40 percent below 1990 levels by 2030. As stated in the 2013 Scoping Plan Update, which maps out how the State will achieve the AB 32 target, and the recently adopted 2017 Scoping Plan, which maps out how the State will achieve the SB 32 target, it is up to local agencies and governments to establish policies and thresholds to ensure land use development is consistent with statewide targets. Although the 2017 Scoping Plan also states that per capita community emissions of no more than 6 MT CO_2e by 2030 and no more

than 2 MT CO_2e by 2050 would be consistent with statewide emission reduction targets, the 2017 Scoping Plan does not provide project-level thresholds for land use development. However, compared to AB 32, GHG emissions targets in SB 32 are more aggressive, and because the project would exceed AB 32, it would also exceed SB 32 policies.

The GHG emissions of the project would conflict with statewide policies adopted for the purpose of reducing the emissions of GHG, such as AB 32. This impact would be potentially significant but mitigable.

Mitigation Measures

The project would incorporate Mitigation Measure CC-1.

Significance After Mitigation

Implementation of Mitigation Measure CC-1 would reduce the project's GHG emissions to avoid exceeding SLOAPCD's project-specific efficiency threshold. The reduction of GHG emissions resulting from the implementation of Mitigation Measure CC-1 would ensure the project's consistency with applicable GHG emission reduction targets and policies. Impacts would be less than significant with implementation of mitigation.

Cumulative Impacts

Impacts associated with GHG emissions are cumulative by nature and understood on a global scale, as the accumulation of GHGs in the atmosphere contributes to climate change. As mentioned above, the vast majority of individual projects do not generate sufficient GHG emissions to create an individual project-specific impact through a direct influence to climate change. Therefore, the issue of climate change typically involves an analysis of whether a project's contribution toward an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (State CEQA Guidelines, Section 15355).

The State, MBARD, and Monterey County have not adopted GHG emissions thresholds to determine if individual projects are cumulatively considerable. Therefore, for the purpose of this analysis, a project which falls below the SLOAPCD impact thresholds discussed above is considered to have a less than significant impact, both individually and cumulatively. As indicated above in Impact CC-1 and CC-2, implementation of Mitigation Measure CC-1 would reduce GHG emissions associated with the proposed project below applicable thresholds. Therefore, the proposed project's GHG impacts would not be cumulatively considerable with mitigation implemented.

4.4 Cultural, Tribal Cultural, and Paleontological Resources

This section assesses potential impacts to cultural and paleontological resources from the project. Rincon Consultants, Inc. (Rincon) conducted a cultural resources assessment and paleontological resources assessment of the project site, which inform this analysis. The paleontological resources assessment and Native American outreach are included as Appendix D of this EIR.

4.4.1 Summary

Table 19 summarizes the identified environmental impacts, proposed Mitigation Measures, and residual impacts of the proposed project with regard to cultural resources. Additional detail is provided in Section 4.4.3 (Impact Analysis).

Table 19 Impact and Mitigation Summary: Cultural, Tribal Cultural, and Paleontological Resources

Impact	Mitigation Measures	Residual Impact
Impact CR-1. Construction of the proposed project would not involve ground-disturbing activities such as grading and surface excavation, which have the potential to unearth or adversely impact previously identified historical and/or archeological resources. Impacts would be less than significant with mitigation incorporated.	**CR-1 (a) Archaeological Monitoring** Initial project-related ground-disturbing activities shall be observed by a qualified archaeological monitor under the direction of an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for prehistoric archaeology (NPS 1983). Monitoring activities shall be coordinated with a Native American monitor required under Mitigation Measure CR-3(a). If archaeological resources are encountered during ground-disturbing activities, work in the immediate area shall halt, the County shall be notified, and the find shall be evaluated for significance under CEQA. Archaeological monitoring may be reduced or halted at the discretion of the monitor as warranted by conditions such as encountering bedrock, ground disturbance is occurring in fill, or negative findings during the first 60 percent of rough grading. If monitoring is reduced to spot-checking, spot-checking shall occur when ground-disturbance moves to a new location within the project site and when ground disturbance will extend to depths not previously reached (unless those depths are within bedrock). **CR-1 (b) Unanticipated Discovery of Cultural Resources** If cultural resources are encountered during ground-disturbing activities, work in the immediate area and within 50 feet of the discovery shall halt and the qualified archaeologist shall implement a Phase II subsurface testing program to determine resource boundaries, assess the integrity of the resource, and evaluate the resource's significance through a study of its features and artifacts. Construction activities can continue in areas 50 feet away from the find and not associated with the cultural resource location. If the resource is determined not to be significant, no further archaeological investigation or mitigation shall be required. If the resource is determined to be significant, the County of Monterey may choose to allow the capping of the area containing the resource using culturally sterile and chemically neutral fill material. If such capping	Implementation of Mitigation Measures CR-1(a) and CR-1(b) would reduce impacts to previously unidentified archaeological resources to a less than significant level.

Impact	Mitigation Measures	Residual Impact
	occurs, then the qualified archaeologist shall monitor the placement of fill upon the resource. If a significant resource will not be capped, the results and recommendations of the Phase II study shall determine the need for a Phase III data recovery program designed to record and remove significant cultural materials that could otherwise be tampered with or disturbed by project construction. If a Phase III data recovery program is warranted, a Cultural Resources Data Recovery Plan shall be developed by the qualified archaeologist to outline excavation and laboratory procedures. The plan shall be submitted to the County for review and approval prior to proceeding with grading and construction activities. Upon completion of monitoring and any necessary Phase II and/or Phase III excavation, a report shall be submitted to the County for review and approval. **Monitoring Action:** Prior to issuance of grading or construction permits and prior to ground disturbing activities, the applicant shall submit a copy of an executed agreement with a qualified archeologist providing the required monitoring services, to the Chief of Planning for review and approval. Prior to final building inspection, the applicant shall submit a letter from a qualified archeologist detailing how the monitoring requirements were met.	
Impact CR-2. Construction of the proposed project would involve ground-disturbing activities such as grading and surface excavation, which have the potential to unearth or adversely impact previously unidentified paleontological resources. Impacts would be Less Than Significant with Mitigation Incorporated.	**CR-2 (a) Paleontological Worker Environmental Awareness Program** Prior to the start of construction, a project paleontologist who meets the standards of the SVP (2010) or his or her designee shall conduct training for construction personnel regarding the appearance of fossils and the procedures for notifying the County and the project paleontologist should fossils be discovered by construction staff. The Worker Awareness Program (WEAP) training requirement shall be fulfilled at the time of a preconstruction meeting. **CR-2 (b) Paleontological Monitoring** Ground-disturbing construction activities (including grading, trenching, foundation work, and other excavations) in previously undisturbed sediments that exceed 10 feet in depth shall be monitored on a full-time basis during initial ground disturbance. Monitoring shall be conducted by a qualified paleontological monitor, who is defined as an individual who has experience with collection and salvage of paleontological resources and meets the minimum standards of the SVP (2010). The duration and timing of the monitoring shall be determined by the project paleontologist and based upon the location and extent of proposed ground disturbance. If the project paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, the project paleontologist may recommend that monitoring be reduced to periodic spot-checking or cease entirely. Monitoring is not necessary in artificial fill or for activities that do not reach 10 feet in depth. **CR-2 (c) Unanticipated Discovery of Paleontological Resources** In the event of a fossil discovery during construction, all work in the immediate vicinity of the find shall cease. A qualified paleontologist shall evaluate the find before restarting	Implementation of Mitigation Measure CR-2 (a) through CR-2 (c) would reduce impacts to previously unidentified paleontological resources to a less than significant level.

Impact	Mitigation Measures	Residual Impact
	construction activity in the area. If it is determined that the fossil(s) is (are) scientifically significant as defined by the SVP (2010), the project paleontologist shall notify the County and complete the following actions to mitigate impacts to significant fossil resources: 1) **Salvage of Fossils.** The project paleontologist (or paleontological monitor) shall recover significant fossils following standard field procedures for collecting paleontological resources, as described by the SVP (2010). Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case, the paleontologist shall have the authority to temporarily direct, divert, or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner. 2) **Preparation and Curation of Recovered Fossils.** Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection (such as the University of California Museum of Paleontology), along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the project paleontologist. **Monitoring Action:** Prior to issuance of grading or construction permits and prior to any ground disturbing activities, the applicant shall submit a copy of an executed agreement with a qualified paleontologist to provide the required monitoring services, to the Chief of Planning for review and approval. Prior to final building inspection, the applicant shall submit a letter from a qualified paleontologist detailing how the monitoring requirements were met.	
Impact CR-3. Construction of the proposed project would involve ground-disturbing activities such as grading and surface excavation, which have the potential to unearth or adversely impact previously unidentified human remains. Impacts would be less than significant with mitigation Incorporated.	Implementation of **Mitigation Measures CR-1 and CR-4** is required.	Impacts would be less than significant with implementation of Mitigation Measures CR-1 and CR-4.
Impact CR-4. The proposed project would involve construction activities that have the potential to adversely impact tribal cultural resources, though no tribal cultural resources have been identified within	**CR-4 (a) Native American Monitoring** An OCEN Tribal Monitor shall be retained to be on site to monitor all project-related ground-disturbing construction activities (i.e., grading, excavation, potholing, etc.) within previously undisturbed soils. **CR-4 (b) Unanticipated Discovery of Tribal Cultural Resources** In the event the OCEN Tribal Monitor identifies tribal cultural resources, the monitor shall be given the authority to	Implementation of Mitigation Measure CR-4 (a) and CR-4(b) would reduce impacts to previously unidentified tribal

Impact	Mitigation Measures	Residual Impact
the project site. Impacts would be Less Than Significant with Mitigation Incorporated.	temporarily halt construction in the immediate vicinity and within 50 feet of the discovery and to determine if it is a tribal cultural resource under CEQA in consultation with the County of Monterey and, if necessary, the qualified archaeologist. Construction activities can continue in areas 50 feet away from the find and not associated with the cultural resource location. If the discovery proves to be significant, additional work such as testing or data recovery may be warranted. Any resources found should be treated with appropriate dignity and respect. At the completion of monitoring activities, all artifacts of Native American origin shall be returned to OCEN through the tribal monitor. Monitoring Action: Prior to issuance of building or grading permits, the applicant shall provide appropriate agreements with an OCEN Tribal monitor to the Chief of Planning for review and approval. Prior to final building permit inspection, the applicant shall provide documentation in writing including photos demonstrating that the mitigation was implemented during construction activities.	cultural resources to a less than significant level.

4.4.2 Setting

a. Regional Setting

Historic Background

Prehistory

The project area lies in what is generally described as the Central Coast Archaeological Region, one of eight organizational divisions of the state (Moratto 1984). This region extends from Monterey Bay to Morro Bay, and includes all of Monterey County.

Several chronological sequences have been devised to understand cultural changes in the Central Coast Region from the Milling Stone period to contact. Jones and Ferneau (2002) present the following sequence: Milling Stone, Early, Early-Middle Transition, Middle, Middle-Late Transition, and Late periods. The archaeology of the Central Coast Region subsequent to the Milling Stone period is distinct from that of the Bay Area and Central Valley, although the region has more in common with the Santa Barbara Channel area during the Middle and Middle-Late Transition periods, but few similarities during the Late period (Jones & Ferneau 2002).

Paleo-Indian Period (ca. 10,000 to 6,000 B.C.)

When Wallace developed the Early Man horizon in the 1950s, little evidence of human presence was known for the southern California coast prior to 6000 B.C. Archaeological work in the intervening years has identified numerous sites older than this date, including coastal and Channel Islands sites (e.g., Erlandson 1991, Johnson et al. 2002, Moratto 1984). The earliest accepted dates for occupation are from two of the Northern Channel Islands, located off the coast from Santa Barbara. On San Miguel Island, Daisy Cave clearly establishes the presence of people in this area approximately 10,000 years ago (Erlandson 1991). On Santa Rosa Island, human remains have been dated from the Arlington Springs site to approximately 13,000 years ago (Johnson et al. 2002).

Only a few archaeological sites within the Central Coast Region are documented prior to 6,000 years ago. It is likely that most earlier coastal sites are presently under water because it is estimated that 10,000 years ago sea levels were 15 to 20 meters lower than today (Bickel 1978). Estimates place the early Holocene shore in central and southern California at approximately 10 kilometers farther west than today's coastline (Breschini and Haversat 1991).

Recent data from Paleo-Indian sites in southern California indicate that the economy was a diverse mixture of hunting and gathering, with a major emphasis on aquatic resources in many coastal areas (Jones et al. 2002) and on Pleistocene lake shores in eastern California (Moratto 1984).

Milling Stone Period (6000 to 3000 B.C.)

The Milling Stone horizon of Wallace (1955, 1978) is characterized by an ecological adaptation to collecting, and by the dominance of the principal ground stone implements generally associated with the horizontal motion of grinding small seeds, namely milling stones (metates, slabs) and hand stones (manos, mullers), which are typically shaped (Wallace 1955, 1978). Milling stones occur in large numbers for the first time in the region's archaeological record, and are even more numerous near the end of this period. As testified by their toolkits and shell middens in coastal sites, people during this period practiced a mixed food procurement strategy. Subsistence patterns varied somewhat as groups became better adapted to their regional or local environments.

Early Period and Early-Middle Transition Period (3500 to 600 B.C.)

Although Jones and Ferneau (2002) have distinguished an Early-Middle Transition period, it is not well-defined and is difficult to observe. Thus the transition phase is included in the following discussion of the sites and characteristics recognized for the Early Period in the Central Coast Region.

An extensive series of shoreline midden deposits are in the Central Coast Region during the Early period, signifying an increase in occupation of the open coast (Jones and Waugh 1997). These include estuarine sites such as CA-SLO-165 in Estero Bay and open-coast sites in Monterey Bay area, including CA-MNT-73, CA-MNT-108, and CA-MNT-1228. Lithic artifact assemblages from these sites include Central Coast Stemmed Series and side-notched projectile points. Square-stemmed and side-notched points have also been found in deposits at Willow Creek in Big Sur (CA-MNT-282) and Little Pico II on the San Luis Obispo coast (CA-SLO-175) (Jones and Ferneau 2002).

The material culture recovered from Early period sites in the Central Coast Region provides evidence for continued exploitation of inland plant and coastal marine resources. Artifacts include milling slabs and handstones, as well as mortars and pestles, which were used for processing a variety of plant resources. Bi-pointed bone gorge hooks were used for fishing. Assemblages also include a suite of Olivella beads, bone tools, and pendants made from talc schist. Square abalone shell (Haliotis spp.) beads have been found in Monterey Bay, but not in the Big Sur or San Luis Obispo areas (Jones and Waugh 1997).

Shell beads and obsidian are hallmarks of the trade and exchange networks of the central and southern California coasts. The archaeological record indicates that there was a substantial increase in the abundance of obsidian at Early period sites in the Monterey Bay and San Luis Obispo areas (Jones and Waugh 1997). Obsidian trade continued to increase during the following Middle period.

Middle Period (600 B.C. to A.D. 1000)

A pronounced trend toward greater adaptation to regional or local resources occurred during the Middle period. For example, the remains of fish, land mammals, and sea mammals are increasingly abundant and diverse in archaeological deposits along the coast. Chipped stone tools used for hunting were more abundant and diversified, and shell fishhooks became part of the toolkit during this period. Large knives, a variety of flake scrapers, and drill-like implements are common during this period. Projectile points include large side-notched, stemmed, and lanceolate or leaf-shaped forms. Bone tools, including awls, are more numerous than in the preceding period, and the use of asphaltum adhesive became common.

Complex maritime technology also proliferated during this period. Notable introductions included circular shell fishhooks between 1000 and 500 B.C. (Jones and Klar 2005), and the appearance of compound bone fishhooks between A.D. 300 and 900 (Arnold 1995, Jones and Klar 2005 King 1990). The introduction of shell fishhooks and plank canoes in the southern portion of the region and tule reed or balsa rafts in the north, their subsequent modifications, and the increased use of other capture devices such as nets appear to have led to a substantial focus on fishing in most coastal areas. A seasonal round settlement pattern was still followed. However, large, permanently occupied settlements, particularly in coastal areas, appear to have been the norm by the end of the period (Jones et al. 2007).

Middle-Late Transition Period (A.D. 1000 to 1250)

The Middle-Late Transition period is marked by relative instability and change, with major changes in diet, settlement patterns, and interregional exchange. The Middle period shell midden sites found along the Central Coast were abandoned by the end of the Middle-Late Transition period, so most Transition period and Late period sites were first occupied during those periods (Jones and Ferneau 2002).

During the Middle to Late Transition period, projectile points diagnostic of both the Middle and Late periods are found in the Central Coast Region (Jones and Ferneau 2002). These points include large, contracting-stemmed types typical of the Middle period, as well as Late period small, leaf-shaped points, which likely reflect the introduction of the bow and arrow.

Late Period (A.D. 1250 to Historic Contact)

As noted above, Late period sites are marked by small, finely worked projectile points, as well as temporally diagnostic shell beads. The small projectile points are associated with bow and arrow technology. Although shell beads were typical of coastal sites, trade brought many of these maritime artifacts to inland locations, especially during the latter part of the Late period.

Unlike the large Middle period shell middens, Late period sites are more frequently single-component deposits. There are also more inland sites, with fewer and less visible sites along the Pacific shore during the Late period. The settlement pattern and dietary reconstructions indicate a lesser reliance on marine resources than observed for the Middle and Middle-Late Transition periods, as well as an increased preference for deer and rabbit (Jones et al. 2007). An increase in sites with bedrock mortars during the Late period further suggests that nuts and seeds began to take on a more significant dietary role.

Ethnographic Context

The project area lies in an area traditionally occupied by the Ohlone (or Costanoan) people. Ohlone territory extends from the point where the San Joaquin and Sacramento Rivers issue into the San Francisco Bay to Point Sur, with the inland boundary most likely constituted by the interior Coast Ranges (Kroeber 1925). The Ohlone language belongs to the Penutian family, with several distinct dialects throughout the region (Kroeber 1925).

The pre-contact Ohlone were semi-sedentary, with a settlement system characterized by base camps of tule reed houses and seasonal specialized camps (Skowronek 1998). Villages were divided into small polities, each of which was governed by a chief responsible for settling disputes, acting as a war leader (general) during times of war, and supervising economic and ceremonial activities (Skowronek 1998, Kroeber 1925). Social organization appeared flexible to ethnographers and any sort of social hierarchy was not apparent to mission priests (Skowronek 1998).

Ohlone subsistence was based on hunting, gathering, and fishing (Kroeber 1925, Skowronek 1998). Mussels were a particularly important food resource (Kroeber 1925). Sea mammals were also important. Sea lions and seals were hunted and beached whales were exploited (Kroeber 1925). Like the rest of California, the acorn was an important staple and was prepared by leaching acorn meal both in openwork baskets and in holes dug into the sand (Kroeber 1925). The Ohlone also practiced controlled burning to facilitate plant growth (Kroeber 1925, Skowronek 1998).

Seven Franciscan missions were built in Ohlone territory in the late 1700s, and all members of the Ohlone group were eventually brought into the mission system (Kroeber 1925 Skowronek 1998). After the establishment of the missions, Ohlone population dwindled from roughly 10,000 people in 1770 to 1,300 in 1814 (Skowronek 1998). In 1973, the population of people with Ohlone descent was estimated at fewer than 300 (Levy 1978). The descendants of the Ohlone have since arranged political and cultural organizations to revitalize aspects of their culture (Skowronek 1998). The Monterey County General Plan states that the Ohlone/Costanoan-Esselen Nation is a Native American Heritage Commission-identified Most Likely Descendant (MLD) for the region.

Historic Context

The Monterey County coast was first visited by Europeans in 1542 with the expedition of Juan Rodriguez Cabrillo and later in 1602 by Sebastian Vizcaino (Bean 1968). The Spanish presidio at Monterey and the mission in Carmel were established in in 1770, and served as the capital of the California missions until 1803 (California Missions Foundation 2017). In 1791, Comandante General Pedro de Nava authorized the establishment of presidial pueblos (civilian lands around military forts) with detailed regulations for their organization (Crane 1991). The Pueblo of Monterey grew in population as Spanish soldiers married and raised families, or retired to this location.

In 1822 California received word of Mexico's independence from Spain. At this time, the Pueblo of Monterey had a population of several hundred and the newly established Mexican government decreed the California ports open to increased trade with foreigners under the constitution of 1824 (Bean 1968, Crane 1991). Hallmarks of the Mexican Period in California are the secularization of mission lands, which was fully accomplished by 1836, and the issuance of large and numerous land grants to soldiers and prominent citizens. During the Mexican Period, the project site was within the land grant Cañada de la Segunda, granted to Lazaro Zoto in 1839.

The Treaty of Guadalupe Hidalgo was signed in 1848, ending the Mexican-American War and officially making California a territory of the United States. U.S. jurisdiction over California had really begun two years earlier, when on July 7, 1846, Commodore John D. Sloat raised the U.S. flag after

the “Battle of Monterey,” during which 50 U.S. Marines and 100 Navy sailors landed unopposed and captured the city without firing a shot (Crane 1991). The Gold Rush brought a multitude of new settlers to California in 1848 and the construction of the transcontinental railroad in 1869 contributed further to California’s population boom.

Since that time, California has experienced tremendous growth to become one of the dominant economies in the world. Monterey County is a popular tourist destination, famous for its golf courses, resorts, the Monterey Bay Aquarium, and Cannery Row, which was made famous by John Steinbeck in his titular novel. Steinbeck was born in the city of Salinas, roughly 20 miles from Carmel, and Monterey County has served as the setting for several of his books. Monterey County has remained largely agricultural and the Salinas Valley has been called the “Salad Bowl of the World.”

Carmel-by-the-Sea

In 1602, Sebastian Vizcaino was accompanied by three friars when they found a river valley which they named “El Rio Carmelo” (Carmel Chamber of Commerce 2017). The second California mission, San Carlos Borromeo de Carmelo, was later founded in 1770 and was secularized in 1833. Spanish settlement of the area led to later American settlement and the eventual founding of the City of Carmel. With a population of nearly 450, Carmel was incorporated on October 31, 1916 (Carmel Chamber of Commerce 2017).

Residents of the newly incorporated city consisted of artists, intellectuals, and environmental preservationists. After the San Francisco earthquake of 1906, migrants settled in Carmel, which prompted the area to be a progressive artistic and cultural hub of the Monterey Bay Area (Carmel Chamber of Commerce 2017). Strong natural preservationists and advocates for maintaining the natural beauty of their community, local residents passed Ordinance No. 7 in 1917. The law made it a misdemeanor to “cut down, remove, injure or mutilate any tree, shrub or bush growing or standing on any of the streets, squares, parks or public places,” and is strictly enforced to this day (Carmel Chamber of Commerce 2017).

From the 1920s to the 1970s, the economy fluctuated due to the Great Depression and World War II, yet the artistic community prevailed. From 1986 to 1988, actor Clint Eastwood served as mayor, bringing world renown to Carmel-by-the-Sea (Carmel Chamber of Commerce 2017). Today, Carmel maintains the same integrity of the artistic, intellectual, and naturalist community as it did when first incorporated 100 years ago.

b. Project Site Setting

The project is located in the southeastern Coastal Ranges Geomorphic Province, one of 11 major provinces in the state (California Geological Survey [CGS] 2002). The Coast Ranges province is bounded to the east by the Great Valley, to the northeast by the Klamath Mountains, to the south by the Transverse Ranges, and to the west by the Pacific Ocean (Norris and Webb 1990). It is divided into two subprovinces: the ranges south of San Francisco Bay to Santa Barbara County and the ranges north of the bay. This subdivision coincides with the northern ranges located east of the San Andreas Fault zone and the southern ranges mostly to the west (Norris and Webb 1990). The southern Coast Ranges, where the project area is located, are lower in elevation with less rainfall than the northern Coast Ranges, and consequently have less vegetation.

The Coast Ranges record a thick sequence of sedimentary strata dating back to the Mesozoic Franciscan Melange (~251 million years ago), with granitic and metamorphic rocks of the Salinian

block present in the southern Coast Ranges, where the project is located (Norris and Webb 1990). The Franciscan Melange records deposition of volcanic and clastic sediments into a subduction zone during the Mesozoic era, followed by subsequent metamorphism (Wakabayashi 2015). Later, Paleocene deposits of marine sandstone with igneous conglomerate lenses belonging to the Carmelo Formation were deposited, followed by Miocene marine mudstones belonging to the Monterey Formation (Storlazzi and Field 2000). More recently, the Pleistocene history of the region (2.6 million to 10,000 years ago) is marked by glacially controlled sea level fluctuations and tectonic uplift during which the shoreline advanced and retreated as much as 30 miles across the continental shelf, carving a series of marine terraces along the coast (Norris and Webb 1990).

4.4.2.1 Existing Conditions

Cultural Resources

Rincon Consultants, Inc. completed a Cultural Resources Assessment in September 2017. The study consisted of a cultural resources records search, map review, Native American outreach, and a pedestrian survey. Based on a review of the Monterey County Archaeological Sensitivity Maps, the project site is in an area considered to have High archaeological sensitivity.

No cultural resources were identified at the project site as a result of the records search, Sacred Lands File (SLF) search, and pedestrian survey. No structures are present within the project site and no surface evidence of an archaeological site was identified during the pedestrian survey. However, four resources containing a prehistoric component and one Mission-period resource were identified within a 0.5-mile (0.8-kilometer) radius of the project site, and the project site is located only 0.62-mile (1 kilometer) from the Carmel Mission. Of the resources identified in the records search radius, one, site P-27-000393, is located approximately 240 feet (80 meters) north of the project site. Site P-27-000393 was recorded in 1984 by W.A. Waldron, P. Oman, and J. McManus as a small remnant of Site P-27-000290 (number now discarded), recorded in 1951 and later destroyed. Site P-27-000393 consists of a small remnant of a prehistoric shell midden that includes abalone, oyster, clam, and mussel. The mapped boundary for P-27-000393 includes the boundary for both P-27-000393 and P-27-000290. Non-shell constituents include burnt animal bone, fire-affected rock, charcoal, a mano fragment, and chert flakes.

As a result of the study, no cultural resources were identified within the project site, including no historic built-environment resources and no archaeological resources. However, based on a review of the Monterey County Archaeological Sensitivity Maps and the presence of nearby resources, the project site is in an area considered to have high archaeological sensitivity.

Tribal Cultural Resources

In accordance with AB 52, the County of Monterey prepared and mailed notification letters to Fred Segobia of the Salinan Tribe of Monterey and San Luis Obispo and Louise Miranda-Ramirez of the Ohlone/Costanoan-Esselen Nation (OCEN) on August 18, 2017 (Appendix E). Under AB 52, tribes have 30 days to respond and request consultation. On September 12, 2017, the County of Monterey met with Louise Miranda-Ramirez, Tribal Chairwoman of OCEN, to discuss the proposed project. Chairwoman Miranda-Ramirez noted the proximity of the project to the Carmel River and the Carmel Mission, indicating sensitivity for potential cultural resources, but did not identify any specific tribal cultural resources within the project site. OCEN, as a matter of practice, objects to all earthwork with the potential to disturb cultural resources. When development occurs, they recommend that an OCEN Tribal monitor be present to observe ground-disturbing activities with the

power to stop grading/excavation. Chairwoman Miranda-Ramirez further requested that any identified artifacts be returned to the tribe through the tribal monitor and that if Native American human remains are found that, in addition to the legally required steps, they be reburied on-site or on an acceptable alternative site provided by the developer together with any artifacts found with the burial.

Paleontological Resources

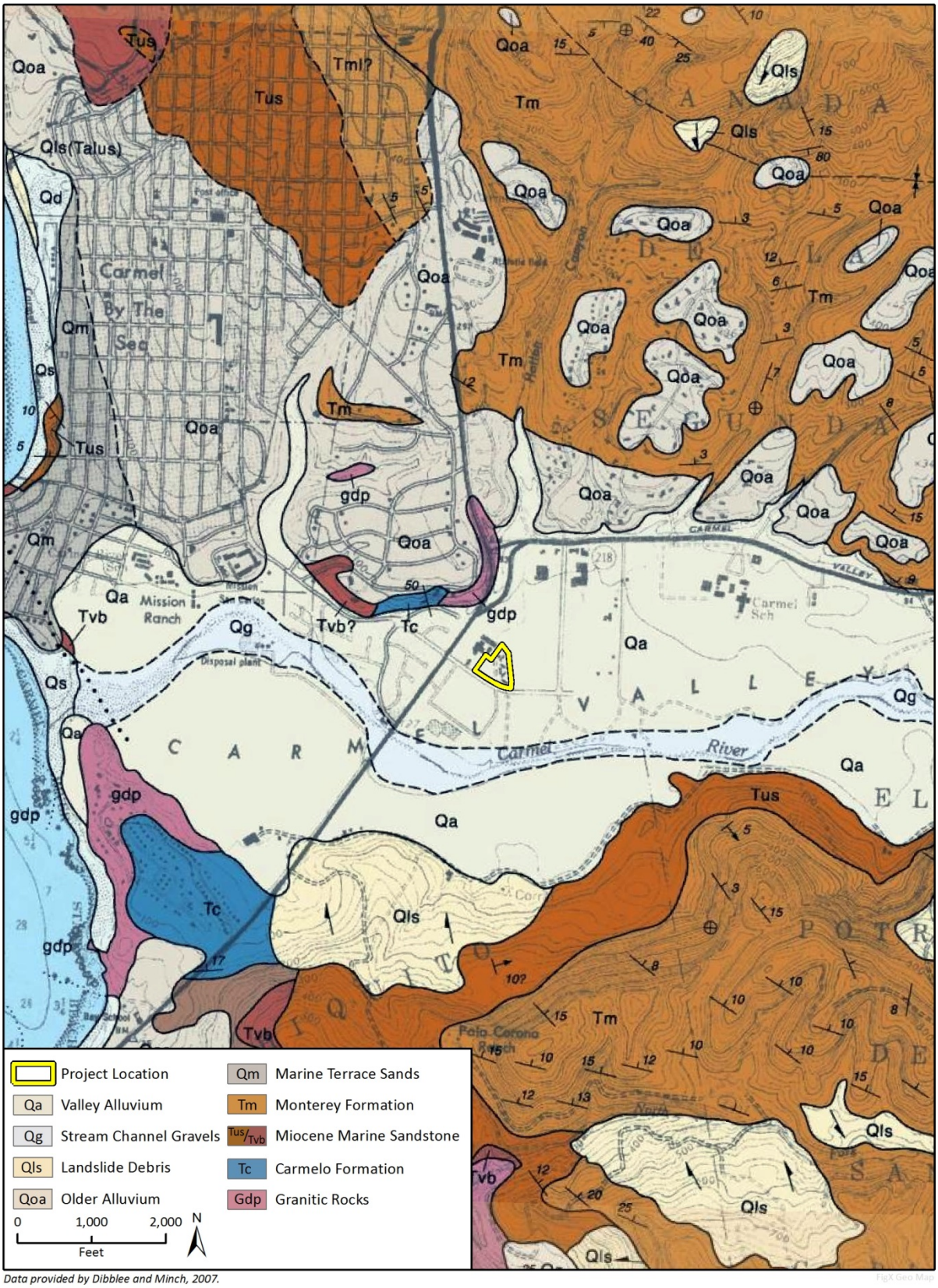
Fossils are preserved evidence of past life, which can include body fossils, such as bones or shell, as well as trace fossils, such as burrows or footprints. As defined by the SVP, fossils must be older than 5,000 years (SVP 2010). Fossils are commonly preserved in sedimentary rocks, which are present beneath the recent sediments that make up the surface of the project area (Figure 19). Monterey County has a rich fossil record of both invertebrate (Bromley et al. 2003, Durham 1965, UCMP 2017) and vertebrate fossils (Hope et al. 2003, UCMP 2017).

Rincon completed a paleontological sensitivity assessment for the proposed project in 2017 (Appendix D). Rincon evaluated the paleontological sensitivity of the geologic units present on the project site based on a review of existing information in the primary literature on known fossils in those geologic units, review of previous geotechnical studies of the project site, and a records search from the University of California Museum of Paleontology (UCMP) for fossil localities in the vicinity of the project area. Rincon assigned paleontological sensitivity to each geologic unit within the project site.

The SVP (2010) describes sedimentary rock units as having high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. While these standards were specifically written to protect vertebrate paleontological resources, all fields of paleontology have adopted these guidelines. Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant non-renewable fossiliferous resources. Geologic units considered to have low sensitivity include sedimentary rock units that are potentially fossiliferous, but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well-documented and understood taphonomic, phylogenetic species and habitat ecology. Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed. Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources. For a full description of the SVP sensitivity criteria, see the paleontological resources assessment in Appendix D (Rincon Consultants, Inc. 2017).

Records of the UCMP indicate that the Miocene Monterey Group has produced significant fossils in the vicinity of the project site, including a megalodon shark tooth (Charcharodon megalodon) from along Carmel Road and numerous invertebrate fossils, such as gastropods and bivalves, to the west of the project area (Holroyd 2017). Additionally, fish fossils (Oligodiodon, Squatina, and Myliobatis) are known from the Monterey Group elsewhere in Monterey County (UCMP 2017). The Monterey Group outcrops to the north and south of the Carmel Valley, where the project site is located (Dibblee and Minch 2007), and is likely present in the subsurface of the project site. Pleistocene sediments of an age to preserve fossils outcrop just to the north of the project area inside the

Figure 19 Geologic Units within the Project Site and Vicinity



Carmel Valley (Dibblee and Minch 2007), and are also likely present in the subsurface of the project site. Pleistocene fossils recovered from Monterey County include horses (Equus), ground sloth (Glossotherium), camel (Camelops), and bison (Bison) (UCMP 2017).

While the surficial alluvial sediments are too young to preserve fossil resources (Dibblee and Minch 2007, Figure 19), and therefore have low paleontological sensitivity, these sediments overlie older sediments. These older sediments, as discussed above, have a history of preserving significant fossil resources and therefore have high paleontological sensitivity.

4.4.2.2 Regulatory Setting

This section includes a discussion of the applicable State and local laws, ordinances, regulations, and standards governing cultural resources, which must be adhered to before and during implementation of the proposed project.

National Register of Historic Places

The National Register of Historic Places (NRHP) was established by the National Historic Preservation Act (NHPA) of 1966 as "an authoritative guide to be used by federal, State, and local governments, private groups, and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment" (CFR 36 CFR

60.2). The NRHP recognizes properties that are significant at the national, State, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history

Criterion B: It is associated with the lives of persons who are significant in our past

Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction

Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history

California Register of Historical Resources

CEQA (Section 21084.1) requires that a lead agency determine whether a project could have a significant effect on historical resources and tribal cultural resources (PRC Section 21074 [a][1][A]-[B]). A historical resource is a resource listed in or determined to be eligible for listing in the CRHR (Section 21084.1), a resource included in a local register of historical resources (Section 15064.5[a][2]), or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (Section 15064.5[a][3]).

PRC Section 5024.1 requires an evaluation of historical resources to determine their eligibility for listing in the CRHR. The purpose of the register is to maintain listings of the state's historical

resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, as enumerated according to CEQA below:

> 15064.5(a)(3) […] Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code, § 5024.1, Title 14 CCR, Section 4852) including the following:
>
> (1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
>
> (2) Is associated with the lives of persons important in our past;
>
> (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
>
> (4) Has yielded, or may be likely to yield, information important in prehistory or history.
>
> 15064.5(a)(4) The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.
>
> 15064.5(b) A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

In addition, if a project can be demonstrated to cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, Mitigation Measures are required (PRC, Section 21083.2[a], [b], and [c]).

PRC, Section 21083.2(g) defines a unique archaeological resource as an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it does one or more of the following:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person

Impacts to significant cultural resources that affect the characteristics of any resource that qualify it for the NRHP or adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered a significant effect on the environment. These impacts could result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (*CEQA*

Guidelines, Section 15064.5 [b][1], 2000). Material impairment is defined as demolition or alteration in an adverse manner [of] those characteristics of an historical resource that convey its historical significance and that justify its inclusion or eligibility for inclusion in the CRHR (*CEQA Guidelines*, Section 15064.5[b][2][A]).

California Public Resources Code

The California Public Resources Code (PRC) also protects paleontological resources in specific contexts. In particular, PRC Section 5097.5 prohibits "knowing and willful" excavation, removal, destruction, injury, and defacement of any paleontological feature on public lands without express authorization from the agency with jurisdiction. Violation of this prohibition is a misdemeanor and is subject to fine and/or imprisonment (PRC § 5097.5[c]), and persons convicted of such a violation may also be required to provide restitution (PRC § 5097.5[d][1]). Additionally, PRC Section 30244 requires "reasonable Mitigation Measures" to address impacts on paleontological resources identified by the State Historic Preservation Officer.

Section 5097.5 of the PRC states, "No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor."

As used in this PRC section, "public lands" means lands owned by or under the jurisdiction of the State or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, local agencies are required to comply with PRC 5097.5 for their own activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others.

Assembly Bill 52

California Assembly Bill 52 of 2014 (AB 52) expanded CEQA by defining a new resource category, "tribal cultural resources." Assembly Bill 52 establishes that "A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3). PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe," and meets either of the following criteria:

a. 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)
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe

In recognition of California Native American tribal sovereignty and the unique relationship of California local governments and public agencies with California Native American tribal governments, and respecting the interests and roles of project proponents, it is the intent AB 52 to accomplish all of the following:

(1) Recognize that California Native American prehistoric, historic, archaeological, cultural, and sacred places are essential elements in tribal cultural traditions, heritages, and identities.

(2) Establish a new category of resources in CEQA called "tribal cultural resources" that considers the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation.

(3) Establish examples of Mitigation Measures for tribal cultural resources that uphold the existing mitigation preference for historical and archaeological resources of preservation in place, if feasible.

(4) Recognize that California Native American tribes may have expertise with regard to their tribal history and practices, which concern the tribal cultural resources with which they are traditionally and culturally affiliated. Because CEQA calls for a sufficient degree of analysis, tribal knowledge about the land and tribal cultural resources at issue should be included in environmental assessments for projects that may have a significant impact on those resources.

(5) In recognition of their governmental status, establish a meaningful consultation process between California Native American tribal governments and lead agencies, respecting the interests and roles of all California Native American tribes and project proponents, and the level of required confidentiality concerning tribal cultural resources, at the earliest possible point in CEQA environmental review process, so that tribal cultural resources can be identified, and culturally appropriate mitigation and mitigation monitoring programs can be considered by the decision-making body of the lead agency.

(6) Recognize the unique history of California Native American tribes and uphold existing rights of all California Native American tribes to participate in, and contribute their knowledge to, the environmental review process pursuant to CEQA.

(7) Ensure that local and tribal governments, public agencies, and project proponents have information available, early in CEQA environmental review process, for purposes of identifying and addressing potential adverse impacts to tribal cultural resources and to reduce the potential for delay and conflicts in the environmental review process.

(8) Enable California Native American tribes to manage and accept conveyances of, and act as caretakers of, tribal cultural resources.

(9) Establish that a substantial adverse change to a tribal cultural resource has a significant effect on the environment.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. AB 52 requires that lead agencies "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

Codes Governing Human Remains

The disposition of human remains is governed by Health and Safety Code Section 7050.5 and PRC Sections 5097.94 and 5097.98, and falls within the jurisdiction of the NAHC. If human remains are discovered, the County Coroner must be notified within 48 hours and there should be no further disturbance to the site where the remains were found. If the remains are determined by the coroner to be Native American, the coroner is responsible for contacting the NAHC within 24 hours. The NAHC, pursuant to PRC Section 5097.98, will immediately notify those persons it believes to be most likely descended from the deceased Native Americans so they can inspect the burial site and make recommendations for treatment or disposal.

County of Monterey General Plan

The Conservation/Open Space Element of the County of Monterey General Plan contains several goals and policies relating to cultural and paleontological resources applicable to this project. Goal OS-6 focuses on the identification and protection of archaeological resources. Associated policies applicable to the current project include the completion of a Phase I cultural resources study for new development in all areas within moderate or high sensitivity areas (Policy OS-6.3) and encouraging development design to avoid cultural resources (Policy OS-6.5). Goal OS-7 focuses on the identification and protection of paleontological resources. Associated policies relevant to the current project include the identification and protection of unique paleontological sites and the completion of a paleontological assessment for projects (Policy OS-7.1), paleontological field inspections in high and moderate sensitivity zones and known fossil bearing formations (Policy OS-7.3), and encouraging development to avoid impacts to significant paleontological resources (Policy OS-7.5). Goal OS-8 encourages the protection of Native American resources. Policies associated with this goal relevant to the current project include encouraging all interested Native Americans to participate in CEQA data review and the evaluation stages of cultural resources policy implementation and designating the Ohlone/Costanoan-Esselen Nation as the clearinghouse group for the coordination of data recovery and monitoring (Policy OS-8.7).

Carmel Valley Master Plan

The Carmel Valley Master Plan contains Policy CV-3.13 regarding historic and archaeological resources and relevant to the current project. The policy requires that all buildings and sites of historical significance be reviewed on a site by site basis and calls for the preservation of the integrity of historic sites and/or structures.

4.4.3 Impact Analysis

a. Methodology and Significance Thresholds

The analysis of cultural resources impacts is based on empirical research presented in the Cultural Resources Assessment prepared for the proposed project. Analysis of paleontological resources impacts is based on results presented in the Paleontological Resources Assessment prepared for the proposed project (Appendix D). The methodologies and significance thresholds employed for the cultural resources impact analyses are described below and in Section 4.4.2.4, *Regulatory Setting*, above.

In accordance with Appendix G of the *CEQA Guidelines*, an impact to cultural and paleontological resources is considered significant if it can be demonstrably argued that the project would:

1. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5;
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5;
3. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; and/or
4. Disturb any human remains, including those interred outside of dedicated cemeteries.

The significance of an archaeological deposit and subsequently the significance of any impact are determined by the criteria established in the *CEQA Guidelines,* as provided in the *Regulatory Setting*.

If an archaeological resource does not meet either the historical resource or the more specific "unique archaeological resource" definition, impacts do not need to be mitigated [13 PRC 15064.5 (e)]. Where the significance of a site is unknown, it is presumed to be significant for the purpose of the EIR investigation.

The potential for impacts to significant paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units. CEQA does not define "a unique paleontological resource or site." However, the SVP broadly defines significant paleontological resources as follows (SVP 2010):

> "Fossils and fossiliferous deposits consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years)."

The loss of paleontological resources that meet the criteria outlined above (i.e. considered a significant paleontological resource) would be considered a significant impact under CEQA, and the CEQA lead agency is responsible for ensuring that paleontological resources are protected in compliance with CEQA and other applicable statutes.

Significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, diagnostically important, or are common but have the potential to provide valuable scientific information for evaluating evolutionary patterns and processes, or which could improve our understanding of paleochronology, paleoecology, paleophylogeography, or depositional histories. New or unique specimens can provide new insights into evolutionary history. However, additional specimens of even well-represented lineages can be equally important for studying evolutionary pattern and process, evolutionary rates, and paleophylogeography. Even unidentifiable material can provide useful data for dating geologic units if radiocarbon dating is possible. As such, common fossils (especially vertebrates) may be scientifically important, and therefore considered highly significant.

Recent revisions to Appendix G of the *CEQA Guidelines* include thresholds for potential impacts to Tribal Cultural Resources. In accordance with Appendix G of the *CEQA Guidelines*, an impact to Tribal Cultural Resources from the proposed project would be significant if the project would:

1. 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 the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

b. Project Impacts and Mitigation Measures

Thresholds 1:	Would the project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?
Threshold 2:	Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?

Impact CR-1 CONSTRUCTION OF THE PROPOSED PROJECT WOULD INVOLVE GROUND-DISTURBING ACTIVITIES, SUCH AS GRADING AND SURFACE EXCAVATION, WHICH HAVE THE POTENTIAL TO UNEARTH OR ADVERSELY IMPACT PREVIOUSLY UNIDENTIFIED HISTORICAL AND/OR ARCHEOLOGICAL RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

As discussed in Section 4.4.2.3, *Existing Conditions*, there are no previously identified cultural resources on the project site. However, based on the presence of cultural resources in the project vicinity (i.e., a large shell midden 240 feet (80 meters) north of the project site and the nearby Carmel Mission) as well as sensitivity maps created by the County of Monterey, the project site is in an area of high archaeological sensitivity. Thus, there is a high potential for encountering previously unidentified buried archaeological resources within the project site during ground-disturbing activities.

Because the project would involve ground disturbing activities, such as grading and trenching for utilities, and because of the high sensitivity of the project site and vicinity, the project has a high potential to impact previously unidentified historical and/or archaeological resources. Mitigation is required to reduce impacts to previously unidentified historical and/or archaeological resources.

Mitigation Measures

The following mitigation is required.

CR-1(a) Archaeological Monitoring

Initial project-related ground-disturbing activities shall be observed by a qualified archaeological monitor under the direction of an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for prehistoric archaeology (NPS 1983). Monitoring activities shall be coordinated with a Native American monitor required under Mitigation Measure CR-3(a). If archaeological resources are encountered during ground-disturbing activities, work in the immediate area shall halt, the County shall be notified, and the find shall be evaluated for significance under CEQA. Archaeological monitoring may be reduced or halted at the discretion of the monitor as warranted by conditions such as encountering bedrock, ground disturbance is occurring in fill, or negative findings during the first 60 percent of rough grading. If monitoring is reduced to spot-checking, spot-checking shall occur when ground-disturbance moves to a new

location within the project site and when ground disturbance will extend to depths not previously reached (unless those depths are within bedrock).

CR-1(b) Unanticipated Discovery of Cultural Resources

If cultural resources are encountered during ground-disturbing activities, work in the immediate area and within 50 feet of the discovery shall halt and the qualified archaeologist shall implement a Phase II subsurface testing program to determine resource boundaries, assess the integrity of the resource, and evaluate the resource's significance through a study of its features and artifacts. Construction activities can continue in areas 50 feet away from the find and not associated with the cultural resource location. If the resource is determined not to be significant, no further archaeological investigation or mitigation shall be required. If the resource is determined to be significant, the County of Monterey may choose to allow the capping of the area containing the resource using culturally sterile and chemically neutral fill material. If such capping occurs, then the qualified archaeologist shall monitor the placement of fill upon the resource. If a significant resource will not be capped, the results and recommendations of the Phase II study shall determine the need for a Phase III data recovery program designed to record and remove significant cultural materials that could otherwise be tampered with or disturbed by project construction. If a Phase III data recovery program is warranted, a Cultural Resources Data Recovery Plan shall be developed by the qualified archaeologist to outline excavation and laboratory procedures. The plan shall be submitted to the County for review and approval prior to proceeding with grading and construction activities. Upon completion of monitoring and any necessary Phase II and/or Phase III excavation, a report shall be submitted to the County for review and approval.

Monitoring Action: Prior to issuance of grading or construction permits and prior to ground disturbing activities, the applicant shall submit a copy of an executed agreement with a qualified archeologist providing the required monitoring services, to the Chief of Planning for review and approval. Prior to final building inspection, the applicant shall submit a letter from a qualified archeologist detailing how the monitoring requirements were met.

Significance After Mitigation

Implementation of Mitigation Measures CR-1(a) through CR-1(b) would reduce impacts to previously unidentified historical and/or archaeological resources to a less than significant level.

Threshold 3:	Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impact CR-2 CONSTRUCTION OF THE PROPOSED PROJECT WOULD INVOLVE GROUND-DISTURBING ACTIVITIES SUCH AS GRADING AND SURFACE EXCAVATION, WHICH HAVE THE POTENTIAL TO UNEARTH OR ADVERSELY IMPACT PREVIOUSLY UNIDENTIFIED PALEONTOLOGICAL RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

As discussed in Section 4.4.2.3, *Existing Conditions*, surficial sediments within the project site are relatively young in age and are considered to have low sensitivity for paleontological resources. However, the Miocene Monterey Group and Pleistocene sediments of an age known to preserve fossils outcrop in the vicinity of the project site and are likely to be present in the subsurface of the project site. Construction of the proposed project would involve surface excavation and these activities have the potential to unearth and/or impact potentially significant paleontological resources. Thus, excavations that exceed 10 feet in depth, the estimated depth of the young

surficial sediments, would risk impacting fossil resources. Implementation of the following Mitigation Measures would reduce the risk of impacts to fossil resources to below significance.

Mitigation Measures

The following mitigation is required.

CR-2(a) Paleontological Worker Environmental Awareness Program

Prior to the start of construction, a project paleontologist who meets the standards of the SVP (2010) or his or her designee shall conduct training for construction personnel regarding the appearance of fossils and the procedures for notifying the County and the project paleontologist should fossils be discovered by construction staff. The Worker Awareness Program (WEAP) training requirement shall be fulfilled at the time of a preconstruction meeting.

CR-2(b) Paleontological Monitoring

Ground-disturbing construction activities (including grading, trenching, foundation work, and other excavations) in previously undisturbed sediments that exceed 10 feet in depth shall be monitored on a full-time basis during initial ground disturbance. Monitoring shall be conducted by a qualified paleontological monitor, who is defined as an individual who has experience with collection and salvage of paleontological resources and meets the minimum standards of the SVP (2010). The duration and timing of the monitoring shall be determined by the project paleontologist and based upon the location and extent of proposed ground disturbance. If the project paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, the project paleontologist may recommend that monitoring be reduced to periodic spot-checking or cease entirely. Monitoring is not necessary in artificial fill or for activities that do not reach 10 feet in depth.

CR-2(c) Unanticipated Discovery of Paleontological Resources

In the event of a fossil discovery during construction, all work in the immediate vicinity of the find shall cease. A qualified paleontologist shall evaluate the find before restarting construction activity in the area. If it is determined that the fossil(s) is (are) scientifically significant as defined by the SVP (2010), the project paleontologist shall notify the County and complete the following actions to mitigate impacts to significant fossil resources:

1) **Salvage of Fossils.** The project paleontologist (or paleontological monitor) shall recover significant fossils following standard field procedures for collecting paleontological resources, as described by the SVP (2010). Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case, the paleontologist shall have the authority to temporarily direct, divert, or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner.
2) **Preparation and Curation of Recovered Fossils.** Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection (such as the University of California Museum of Paleontology), along with all pertinent field notes,

photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the project paleontologist.

MONITORING ACTION

Prior to issuance of grading or construction permits and prior to any ground disturbing activities, the applicant shall submit a copy of an executed agreement with a qualified paleontologist to provide the required monitoring services, to the Chief of Planning for review and approval. Prior to final building inspection, the applicant shall submit a letter from a qualified paleontologist detailing how the monitoring requirements were met.

Significance After Mitigation

Through the monitoring of ground disturbance and evaluation of any identified paleontological resources, should they be discovered, implementation of Mitigation Measures CR-2 (a) through CR-2(c) would reduce impacts to paleontological resources to a less than significant level.

Threshold 4:	Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Impact CR-3 CONSTRUCTION OF THE PROPOSED PROJECT WOULD INVOLVE GROUND-DISTURBING ACTIVITIES SUCH AS GRADING AND SURFACE EXCAVATION, WHICH HAVE THE POTENTIAL TO UNEARTH OR ADVERSELY IMPACT PREVIOUSLY UNIDENTIFIED HUMAN REMAINS. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION MEASURES CR-1 AND CR-4 INCORPORATED.

The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the Monterey County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner is required to notify the NAHC, which would determine and notify a most likely descendant (MLD). The MLD must complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. If human remains are identified and OCEN is identified as the MLD, it is their preference that any identified Native American human remains be reburied on-site or on an acceptable alternative site provided by the developer, together with all artifacts found with the burial. With adherence to existing regulations relating to human remains, and given that an Archaeological monitor (pursuant to Mitigation Measure CR-1) and an OCEN tribal monitor (pursuant to Mitigation Measure CR-4) will be present at the site during digging, impacts would be less than significant.

Mitigation Measures

Mitigation Measures CR-1 and CR-4 are required to reduce potential impacts to previously unidentified remains.

Significance After Mitigation

An archaeological monitor and an OCEN tribal monitor would be present on the site during disturbing activities such as grading and excavation; therefore, implementation of Mitigation

Measures CR-1 through CR-4 would reduce impacts to human remains to a less than significant level.

Threshold 5:	Would the project 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, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Impact CR-4 **THOUGH NO TRIBAL CULTURAL RESOURCES HAVE BEEN IDENTIFIED WITHIN THE PROJECT SITE, THE POTENTIAL TO UNEARTH OR ADVERSELY IMPACT TRIBAL CULTURAL RESOURCES REMAINS. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.**

As described in the Section 4.4.2.3, *Existing Conditions*, the County of Monterey prepared and mailed letters to California Native Americans in accordance with AB 52 on August 18, 2017. On September 12, 2017, the County met with Chairwoman Louise Miranda-Ramirez of OCEN to discuss the project. No specific tribal cultural resources have been identified at the project site; however, OCEN has identified the project site as sensitive for potential cultural and/or tribal cultural resources due to its proximity to the Carmel River and Carmel Mission. Due to the sensitivity of the project site, mitigation is required to address impacts to previously unidentified tribal cultural resources. With the incorporation of the following Mitigation Measures, impacts to previously unidentified tribal cultural resources would be less than significant.

Mitigation Measures

The following mitigation is required.

CR-4(a) Native American Monitoring

An OCEN Tribal Monitor shall be retained to be on site to monitor all project-related ground-disturbing construction activities (i.e., grading, excavation, potholing, etc.) within previously undisturbed soils.

CR-4(b) Unanticipated Discovery of Tribal Cultural Resources

In the event the OCEN Tribal Monitor identifies tribal cultural resources, the monitor shall be given the authority to temporarily halt construction in the immediate vicinity and within 50 feet of the discovery and to determine if it is a tribal cultural resource under CEQA in consultation with the County of Monterey and, if necessary, the qualified archaeologist. Construction activities can

continue in areas 50 feet away from the find and not associated with the cultural resource location. If the discovery proves to be significant, additional work such as testing or data recovery may be warranted. Any resources found should be treated with appropriate dignity and respect. At the completion of monitoring activities, all artifacts of Native American origin shall be returned to OCEN through the tribal monitor.

MONITORING ACTION

Prior to issuance of building or grading permits, the applicant shall provide appropriate agreements with an OCEN Tribal monitor to the Chief of Planning for review and approval. Prior to final building permit inspection, the applicant shall provide documentation in writing including photos demonstrating that the mitigation was implemented during construction activities.

Significance After Mitigation

Through Native American monitoring of ground disturbance and evaluation of potential tribal cultural resources, should they be discovered, implementation of Mitigation Measures CR-4(a) and CR-4(b) would reduce impacts to tribal cultural resources to a less than significant level.

Cumulative Impacts

The project, in conjunction with other nearby planned, pending, and potential future projects in the County of Monterey as discussed in Section 3, *Environmental Setting*, would have the potential to adversely impact cultural resources. Cumulative development in the region would continue to disturb areas with the potential to contain cultural and tribal cultural resources. It is anticipated that for other developments that would have significant impacts on cultural and tribal cultural resources, similar Mitigation Measures described herein would be imposed on those other developments, along with requirements to comply with all applicable laws and regulations governing said resources. With the proposed Mitigation Measures identified in this section of the EIR, coupled with policies and regulations applying to this and other projects, such impacts to cultural and tribal cultural resources would be less than significant at the project level. As such, the proposed project would not contribute to cumulative impacts on cultural and tribal cultural resources outside the project site. In addition, individual development proposals are reviewed separately by the appropriate jurisdiction and undergo environmental review when it is determined that the potential for significant impacts exist. In the event that future cumulative projects would result in impacts to known or unknown cultural or tribal cultural resources, impacts to such resources would be addressed on a case-by-case basis. Therefore, impacts related to cultural and tribal cultural resources would not be cumulatively considerable.

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4.5 Geology and Soils

4.5.1 Summary

Table 20 summarizes the identified environmental impacts, proposed Mitigation Measures, and residual impacts of the proposed project with regard to geology and soils. Additional detail is provided in Section 4.5.3 (Impact Analysis).

Table 20 Impact and Mitigation Summary: Geology and Soils

Impact	Mitigation Measures	Residual Impact
Impact GEO-1. Seismically induced groundshaking could destroy or damage structures and infrastructure, resulting in loss of property or risk to human safety. However, mandatory compliance with applicable California Building Code requirements and specifications for the project's building foundations would reduce impacts to a less than significant level.	No mitigation is required.	Impacts would be less than significant.
Impact GEO-2. Seismically included ground shaking could destroy or damage structures and infrastructure, resulting in loss of property or risk to human safety. The probability of liquefaction occurring in the sand strata extending from 15 to 48 feet below ground surface is high to very high. However, the potential for liquefaction-induced lateral spreading is low. Potential impacts resulting from liquefaction would be significant but mitigable.	**GEO-2 Reduction of Liquefaction Potential** Prior to issuance of a grading permit, the applicant shall submit to RMA Building Services for Building Official review and approval, a design-build ground improvement program prescribed by a qualified engineer to minimize liquefaction potential on the site. Measures to reduce liquefaction impacts could include, but may not be limited to specialized design of foundations by a structural engineer. Liquefaction shall be reduced such that people and structures would not be exposed to a substantial adverse effect, including the risk of loss, injury, or death involving seismic-related liquefaction, nor be exposed to on- or off-site liquefaction as a result of the proposed project, as determined by a registered professional engineer and the Building Official. To minimize construction-related vibration impacts of ground improvement techniques such as the vibro replacement stone column technique, piles shall not be driven within 20 feet of any existing, adjacent structures or fuel tanks unless a qualified engineer first certifies that the impacts of this technique to shake or crack foundations, or liquefy soil supporting these structures can be avoided. All ground improvement techniques shall reduce the liquefaction potential to an acceptable level, as determined by the Building Official, and shall be implemented by the applicant. **Monitoring Action:** Prior to the issuance of building permits, the applicant shall submit a report prepared by a qualified, registered engineer to the Building Official for	Implementation of Mitigation Measure GEO-2 would reduce potential liquefaction impacts to a less than significant level.

Impact	Mitigation Measures	Residual Impact
	review and approval. The engineer's report shall address the requirements of this mitigation including but not limited to recommendations for adequate foundation design to avoid loss of life or injury resulting from liquefaction and, as applicable, addressing the potential for impacts of the construction of the recommending foundation on adjacent structures. The Building Official shall not approve a construction permit until potential impacts from liquefaction and construction are adequately addressed. Prior to final of building permits, the applicant shall submit written information from a qualified engineer, to the satisfaction of the Building Official verifying that the mitigation has been satisfactorily completed.	
Impact GEO-3. Construction of the proposed project could result in soil erosion or loss of topsoil. However, compliance with existing regulations would reduce impacts to a less-than-significant level.	No mitigation is required.	Impacts would be less than significant.
Impact GEO-4. The project site is not located on a geological unit or soil that is unstable, and would not result in landslides, subsidence, or soil expansion. Impacts would be less than significant.	No mitigation is required.	Impacts would be less than significant.

4.5.2 Setting

a. Regional Setting

The Carmel Valley is geologically complex and seismically active. The predominant structural feature in the California Coast Ranges, in which the Carmel Valley is situated, is the San Andreas Fault, which is the structural boundary of the Pacific and North American tectonic plates. Uplift along faults is the primary force that created the mountains and valleys of the Southern Coast Ranges, including the Santa Lucia and Sierra de Salinas Mountains. Erosion and deposition of soil from the uplifted mountains formed broad alluvial fans of well-drained, nutrient rich soil, including the soils found in Carmel Valley.

This region has three active faults with evidence of historic or recent movement. The San Andreas Fault runs through the southeastern portion of Monterey County for approximately 30 miles and poses the greatest seismic hazard to the County. The two other active faults affecting Monterey County include the Palo Colorado-San Gregorio fault zone and the Monterey Bay fault zone. The Palo Colorado-San Gregorio fault zone connects the Palo Colorado Fault near Point Sur, south of Monterey, with the San Gregorio fault near Point Año Nuevo in Santa Cruz County. The Monterey Bay fault lies seaward of the City of Seaside extending northwesterly to the Pacific Ocean.

b. Project Site Setting

The project site is located on the floor of the Carmel Valley approximately one mile east of the Pacific Ocean on a flood-plain terrace on the northern banks of the Carmel River, which is located approximately 1,000 feet south of the project site. The project site is located within the United States Geological Survey (USGS) Monterey 7.5-minute topographic quadrangle at approximately latitude of 36.539 degrees and longitude -121.908 degrees (PCE 2017). This section covers the geology of the project site, its topographic relief, seismic hazards, landslide hazards, and soil characteristics.

Topography

The project site is relatively flat and ranges in elevation from 26 feet to 30 feet above mean sea level at the highest knolls. Spoil piles ranging from one to six feet in height are located in the eastern half of the project site.

Geology

The majority of the project site is mapped as being underlain by older flood plain deposits, with the southeast corner mapped as younger flood plain deposits. A field investigation conducted by Pacific Crest Engineering verifies that the native soils encountered are consistent with this general description. According to the *Preliminary Geotechnical Investigation* (PCE 2017), the majority of the project site contains imported artificial fill that has been dumped on the site over the years. Figure 20 shows the approximate location of the fill. The composition of the fill is generally silty sand with gravel. The fill depth is approximately three to five feet in the eastern half of the site and large granitic cobbles and boulders up to 12 inches in size are scattered across the surface of this area. Fill in the western portion of the property is generally less than 2 ½ feet in depth, and appears to have less cobbles and boulders and contain more fine grained material. The native soils encountered underneath the fill were mainly older flood plain deposits with younger flood plain deposits in the southeast corner (PCE 2017).

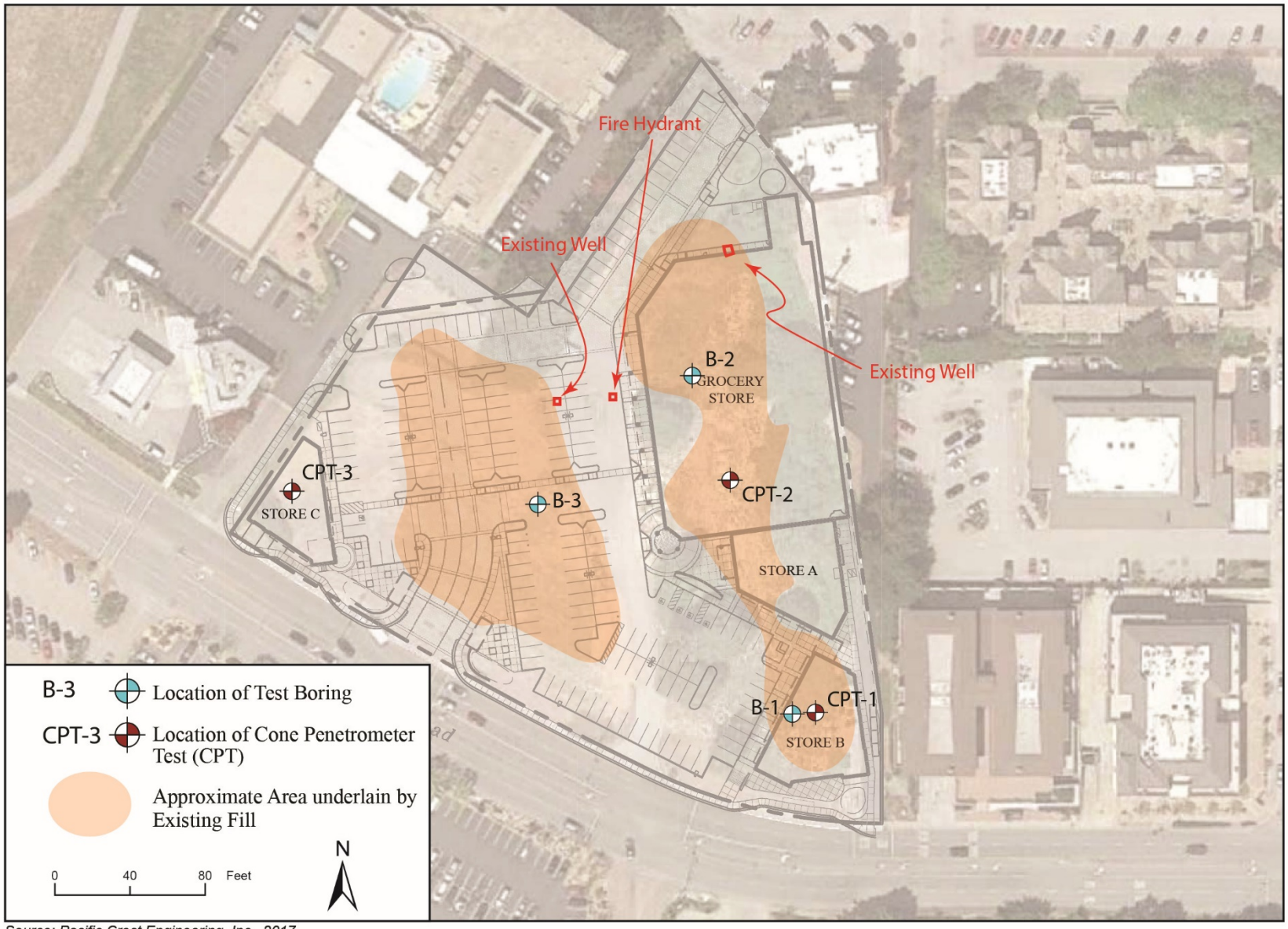
Seismic Hazards

The USGS defines active faults as those that have had surface displacement within Holocene time, or approximately within the last 11,000 years. Evidence of surface displacement can be recognized by the existence of cliffs in alluvium, terraces, offset stream courses, fault troughs and saddles, the alignment of depressions, sag ponds, and the existence of steep mountain fronts. Potentially active faults are those that have had surface displacement during Quaternary time, or within the last 1.6 million years. Inactive faults have not had surface displacement within the last 1.6 million years.

The project site is located within the seismically active central California Coast Ranges geomorphic province, but is not located in an Alquist-Priolo Earthquake Fault Zone (DOC 2015). The major active faults capable of producing large magnitude events and that have a high seismic activity rate recognized in the region are the San Andreas and San Gregorio Faults. The project site lies approximately 30 miles southwest of the San Andreas Fault and 4.5 miles northeast of the San Gregorio Fault. Other active faults in the region include the Monterey Bay-Tularcitos and Reliz. There are no faults mapped on or adjacent to the project site (PCE 2017). Figure 21 shows the faults in the area in comparison to the project location.

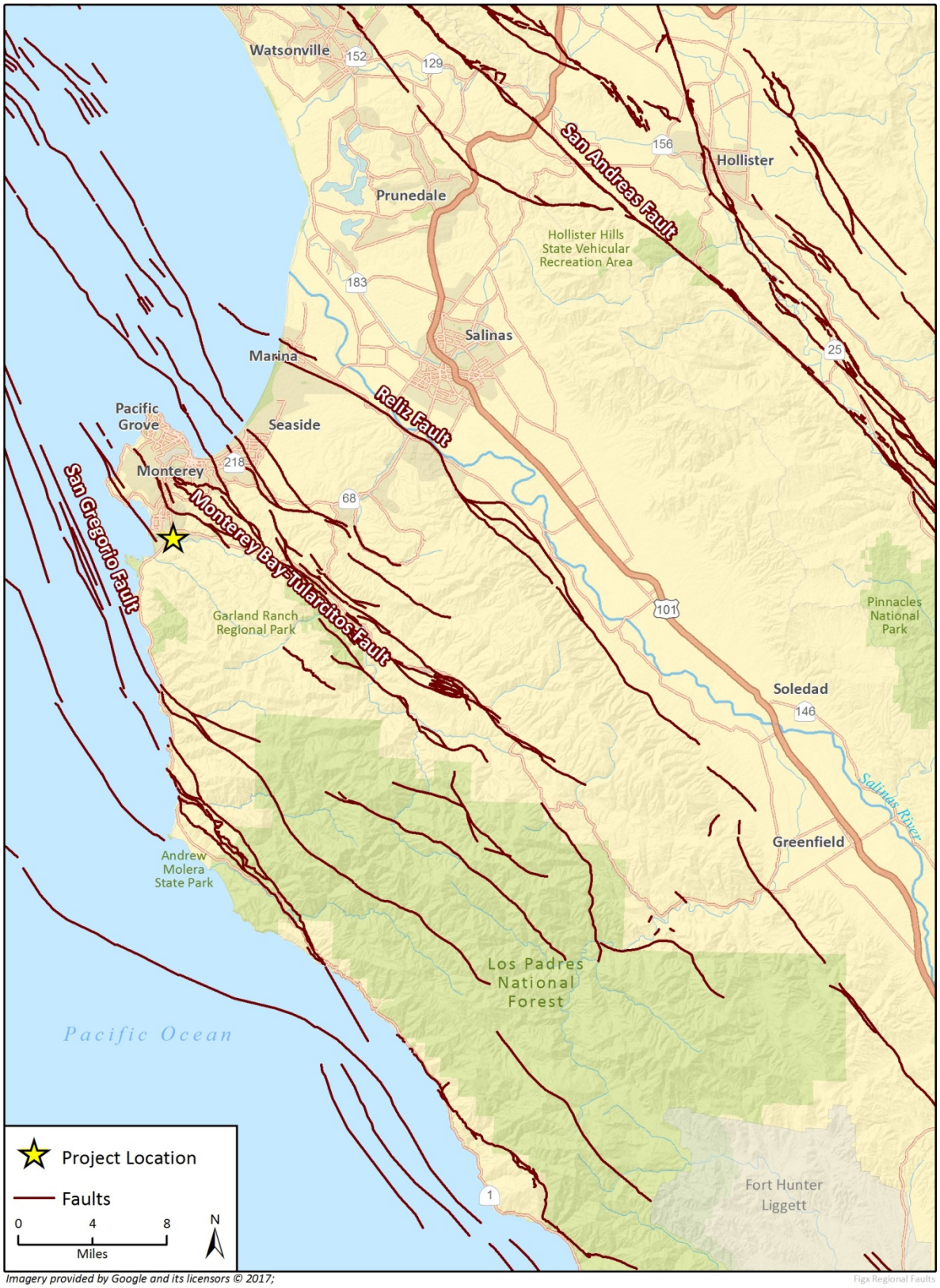
Potential seismic hazards resulting from a nearby moderate to major earthquake can generally be classified as primary and secondary. The primary effect is fault ground rupture, also called surface

Figure 20 Location of Fill and Boring Sites



Source: Pacific Crest Engineering, Inc., 2017.

Figure 21 Regional Faults



rupture. Common secondary seismic hazards include ground shaking, liquefaction, and subsidence. Each of these potential hazards is discussed below.

Surface Rupture

Surface rupture is an actual cracking or breaking of the ground along a fault during an earthquake. Since the project site is not located in a State Earthquake Fault Zone and no active faults are known to occur on or adjacent to the site, the potential for surface ground rupture on the project site is low.

Ground Shaking

Fault displacement generates seismic ground shaking, which is the greatest cause of widespread damage in an earthquake. Whereas surface rupture affects a narrow area above an active fault, ground shaking covers a wide area and is greatly influenced by the distance of the site to the seismic source, soil conditions, and depth to groundwater. The project site is in a region of generally high seismicity and has the potential to experience strong ground shaking from earthquakes on regional and/or local causative faults.

Liquefaction and Lateral Spreading

Soil liquefaction occurs when ground shaking from an earthquake causes a sediment layer saturated with groundwater to lose strength and take on the characteristics of a fluid, thus becoming similar to quicksand. The project site lies within an area deemed to have a moderate susceptibility for liquefaction (Monterey County 2008). According to the *Preliminary Geotechnical Investigation* prepared for the project (refer to Appendix F), the project site has a high to very high potential of liquefaction occurring in the sand strata that extends from about 15 feet to about 48 feet below ground surface. Total ground settlement due to liquefaction in these loose sand layers is estimated to be between about 5.8 and 8.5 inches. Differential settlement is typically estimated to be about ⅔ and ¾ of the total settlement values (PCE 2017).

Lateral spreading can occur when a liquefied soil moves toward a free slope face during the cyclic earthquake loading. Liquefaction-induced lateral spreading can also occur on mild slopes (flatter than 5 percent underlain by loose sands and a shallow water table. If liquefaction occurs, the unsaturated overburden soil can slide as intact blocks over the lower, liquefied deposit, creating fissures and scarps. Based on the site topography and the lack of topographical “free face” in the near vicinity, the potential for lateral spreading at the project site is low (PCE 2017).

Seismically-induced Settlement

Seismically-induced settlement of sufficient magnitude to cause structural damage is normally associated with poorly consolidated, predominantly sandy soils. Non-saturated “dry” sands may settle and densify when subjected to earthquake shaking. Settlement tends to occur in loose clean sands with little or few cohesive fines. Settlement of dry sands, and the corresponding effects on structures, is a function of the magnitude and duration of the earthquake, the ground accelerations that occur at the site, the relative density of the sand, the amount of cohesiveness of the fines within the sand, and the thickness and depth of the sand strata. Based on borings (Figure 20) and Cone Penetrometer Testing (CPT) data, the magnitude of dry sand settlement at the project site would be on the order of approximately ½ to 1 inch.

Landslides

Landslides and other forms of mass wasting, including mud flows, debris flows, soil slips, and rock falls, occur as soil or rock moves down slope under the influence of gravity. Intense rainfall or seismic shaking could trigger landslides. The site is essentially flat and there are no substantial slopes on or adjacent to the project site. According to the *Preliminary Geologic Investigation*, the potential for shallow or localized slope failures to occur and cause damage to the proposed project is low (PCE 2017).

Soil Characteristics

As mapped by the U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS), the soil type of the project site is Metz fine sandy loam and Elder very fine sandy loam, two to nine percent slopes (USDA 2017). However, as shown in Figure 20, the project site has been covered with artificial fill. The composition of the fill is generally a silty sand with gravel and the depth of fill is described as two to five feet. According to PCE, beneath the fill, native earth materials encountered in all three borings were similar. The upper 10 to 13 feet of soil predominantly consist of silty sand and silty sand with gravel with fines content ranging from about 15 to 45 percent. The density of the sand ranges from loose to medium loose. Below about 13 feet and extending to 25 feet, the soils are more consistently loose to medium dense sand which contained one to four percent fines. Loose to medium dense sands extend to about 48 feet below ground surface. Groundwater was encountered between 16 and 18 feet below the ground surface. Therefore, it is anticipated that perched and regional groundwater tables may vary with location and could fluctuate with variations of rainfall, runoff, irrigation and other changes to existing conditions (PCE 2017).

Soil erosion is the removal of soil by water and wind. The rate of erosion is estimated from four soil properties: texture, organic matter content, soil structure, and permeability. Other factors that influence erosion potential include the amount of rainfall and wind, the length and steepness of the slope, and the amount and type of vegetative cover. The surface soils are classified as having a high potential for erosion (PCE 2017).

4.5.3 Regulatory Setting

Federal

National Pollutant Discharge Elimination System

Stormwater-related erosion is one major source of soil-related impacts. Stormwater discharges from construction activities (such as clearing, grading, excavating, and stockpiling) that disturb one or more acres, or smaller sites that are part of a larger common plan of development or sale, are regulated under the National Pollutant Discharge Elimination System (NPDES) stormwater program. Prior to discharging stormwater, construction operators must obtain coverage under an NPDES permit. In California, the General Permit for Discharges of Stormwater Associated with Construction Activity are regulated by the State Water Resources Control Board and administered through the local Regional Water Quality Control Board, which for this area is the Central Coast Regional Water Quality Control Board (CCRWQCB).

The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP should contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns

across the project site. The SWPPP must list Best Management Practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP.

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was signed into California law on December 22, 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The Alquist-Priolo Act provides for special seismic design considerations if developments are planned in areas adjacent to active or potentially active faults. The project site is not located in an Alquist-Priolo Earthquake Fault Zone.

California Building Code (CBC)

The CBC requires, among other things, seismically resistant construction and foundation and soil investigations prior to construction. The CBC also establishes grading requirements that apply to excavation and fill activities, and requires the implementation of erosion control measures. The County is responsible for enforcing the 2016 CBC, or most current CBC version.

Local

Monterey County General Plan

The Monterey County General Plan (2010) Conservation and Open Space Element, and Safety Element contains goals and policies related to geologic hazards and geotechnical requirements. Goal OS-3 of the Conservation and Open Space Element is to prevent soil erosion and enhance water quality. Policy OS-3.1 requires best management practices to prevent erosion. Goal S-1 of the Seismic Element is to minimize the potential for loss of life and property resulting from geologic and seismic hazards. Policy S-1.1 requires land uses to be sited and measures applied to reduce the potential for loss of life, injury, property damage, and economic and social dislocations resulting from ground shaking, liquefaction, landslides, and other geologic hazards in the high and moderate hazard susceptibility areas. Policy S-1.3 requires site-specific geologic studies for new development to verify the presence or absence and extent of the hazard on the property and identify Mitigation Measures for any development proposed. Policy S-1.5 states that structures in areas that are at high risk from fault rupture, landslides, or coastal erosion shall not be permitted unless measures recommended by a registered engineering geologist are implemented to reduce the hazard to an acceptable level. Policy S-1.6 states that new development shall not be permitted in areas of known geologic or seismic hazards unless measures recommended by a California certified engineering geologist or geotechnical engineer are implemented to reduce the hazard to an acceptable level. Policy S-1.7 requires site specific reports addressing geologic hazards and geotechnical conditions for the planning phase in accordance with the California Building Code.

Carmel Valley Master Plan

The Carmel Valley Master Plan (2013) contains Policy CV-4.1 to reduce erosion and rapid runoff by limiting the amount of land to be cleared at one time, prohibiting motorized vehicles on the banks or in the bed of the Carmel River, and requiring native vegetative cover.

Monterey County Code, Chapter 16.08 Grading

Chapter 16.08 of the Monterey County Code regulates grading activities. The purpose of these regulations is to safeguard health, safety, and public welfare, to minimize erosion, protect fish and wildlife, and to otherwise protect the natural environment. A grading permit is required for all activities that would exceed 100 cubic yards of grading. Where grading operations obstruct and/or otherwise impair the flow or runoff of a drainage course, appropriate drainage facilities are required to be implemented to convey flows past the point of obstruction (§16.08.330). Chapter 16.08 also contains measures to protect water quality from grading related activities and associated erosion. These requirements are codified in §16.08.340 of the Monterey County Code, which requires that all areas disturbed in connection with grading related activities shall be consistently maintained to control erosion. The project would be required to comply with these requirements.

Monterey County Code, Chapter 16.12, Erosion Control

Monterey County Code Chapter 16.12 requires that development activities control runoff to prevent erosion. The purpose of these regulations is to eliminate and prevent conditions of accelerated erosion that have led to, or could lead to, degradation of water quality, loss of fish habitat, damage to property, loss of topsoil or vegetation cover, disruption of water supply, increased danger from flooding. An erosion control plan is required to be submitted to the County of Monterey prior to any land disturbing activities (§16.12.060). This plan is required to indicate methods to control erosion. Runoff control must be implemented to control runoff from a 10-year storm event (§16.12.070). All runoff must be detained or dispersed so that the runoff rate does not exceed the pre-development level. Any concentrated runoff which cannot be effectively detained or dispersed without causing erosion is to be carried in non-erodible channels or conduits to the nearest drainage course designated for such purpose or to on-site percolation devices with appropriate energy dissipaters to prevent erosion at the point of discharge. Runoff from disturbed areas must be detained or filtered by berms, vegetated filter strips, catch basins, or other means as necessary to prevent the escape of sediment from the disturbed area. The project would be required to comply with these requirements.

4.5.4 Impact Analysis

a. Methodology and Significance Thresholds

Based on the environmental checklist included in Appendix G of the *CEQA Guidelines,* impacts would be considered potentially significant if the proposed project would:

1. 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;
    ii. Strong seismic shaking

iii. Seismic-related ground failure, including liquefaction,

iv. Landslides;

2. Result in substantial soil erosion or the loss of topsoil;
3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
4. 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; and/or
5. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

There are no faults mapped on or adjacent to the project site and the project site is not located in an Alquist-Priolo Earthquake Fault Zone. The potential for surface ground rupture is therefore low. The project site is relatively flat and would not be subject to the risk of landslides. The proposed project also would not involve installation and use of septic tanks or alternative waste water disposal systems. Wastewater from the project site would be collected and conveyed through a conventional gravity system to an existing Carmel Area Wastewater District sanitary sewer main. Therefore, impacts related to Thresholds 1.i, 1.iv and 5 are not discussed further in this section, but details are provided in Section 4.9, *Effects Found Not to Be Significant*.

b. Project Impacts and Mitigation Measures

Threshold 1.ii:	Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: strong seismic shaking?

Impact GEO-1 SEISMICALLY INDUCED GROUND SHAKING COULD DESTROY OR DAMAGE STRUCTURES AND INFRASTRUCTURE, RESULTING IN LOSS OF PROPERTY OR RISK TO HUMAN SAFETY. HOWEVER, MANDATORY COMPLIANCE WITH APPLICABLE CALIFORNIA BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR THE PROJECT'S BUILDING FOUNDATIONS WOULD REDUCE IMPACTS TO LESS THAN SIGNIFICANT LEVELS.

The project site is located within the seismically active central California Coast Ranges, but is not located in an Alquist-Priolo Earthquake Fault Zone. The major active faults capable of producing large magnitude events and that have a high seismic activity rate recognized in the region are the San Andreas and San Gregorio faults. Other active faults in the site region include the Monterey Bay- Tularcitos and Reliz faults. Based on the *Preliminary Geotechnical Investigation* (PCE 2017) and Figure 21, there are no faults mapped on or adjacent to the project site. However, the project would potentially experience strong ground shaking from earthquakes on any active or potentially active faults in the area, as would other properties in the Carmel Valley.

Despite the potential for ground shaking, the project would be required meet the current CBC seismic-resistance standards, which ensure that new structures are engineered to withstand the expected ground acceleration at a given location. The County of Monterey also has policies and standards in place that regulate construction in areas subject to ground shaking. In accordance with General Plan Policy S-1.8, new development may be approved only if it can be demonstrated that the project site is physically suitable and the development would neither create nor significantly contribute to geologic instability or geologic hazards (Monterey County 2010). Recommendations of the *Preliminary Geotechnical Investigation* prepared for the project to reduce impacts from groundshaking include specifications for building foundations including a structural mat with

reinforced-concrete, tie-beams, and designed to move as a unit and to tolerate the differential settlement potential on the site. Recommendations would ensure that the building foundation have a structural mat designed to accommodate a differential settlement of two inches in 15 feet and allow for a bearing capacity of 1500 psf. Compliance with all applicable provisions of state and local construction and designs standards, and implementation of the recommendations of the *Preliminary Geotechnical Investigation* prepared for the project (PCE 2017) would ensure that potential impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Threshold 1.iii:	Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?
Threshold 3:	Would the project 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?

Impact GEO-2 SEISMICALLY INDUCED GROUND SHAKING COULD DESTROY OR DAMAGE STRUCTURES AND INFRASTRUCTURE, RESULTING IN LOSS OF PROPERTY OR RISK TO HUMAN SAFETY. THE PROBABILITY OF LIQUEFACTION OCCURRING IN THE SAND STRATA EXTENDING FROM 15 TO 48 FEET BELOW GROUND SURFACE IS HIGH TO VERY HIGH. HOWEVER, THE POTENTIAL FOR LIQUEFACTION-INDUCED LATERAL SPREADING IS LOW. POTENTIAL IMPACTS RESULTING FROM LIQUEFACTION WOULD BE SIGNIFICANT BUT MITIGABLE.

The project site is located within a seismically active area and strong seismic shaking is expected to occur within the design lifetime of the project. Non-saturated dry sands may settle and densify when subjected to earthquake shaking. The upper 10 to 13 feet of soil on the project site is predominantly silty sand and silty sand with gravel with fines content ranging from about 15 to 45 percent. The density of the sand ranges from loose to medium loose. Below about 13 feet and extending to 25 feet, the soils are more consistently loose to medium dense sand which contained one to four percent fines. Loose to medium dense sands extend to about 48 feet below ground surface. Dry sand settlement at the project site would be on the order of 0.5 to 1 inch (PCE 2017). According to the *Preliminary Geotechnical Investigation* prepared for the project (PCE 2017), there is a high to very high probability of liquefaction occurring in the sand strata on the project site that extends from 15 to about 48 feet below the ground surface. Total ground settlement due to liquefaction in these loose sand layers is estimated to be between about 5.8 and 8.5 inches. Differential settlement is estimated to be about ⅔ to ¾ of the total settlement values. Soils on the project site are liquefiable and significant settlement of the ground surface may occur during a major earthquake. Liquefaction can result in bearing failure and differential ground settlement, which can cause major damage to the structures on the project site (PCE 2017). Therefore, potential impacts resulting from liquefaction would be significant but mitigable. To mitigate earthquake induced settlement, the *Preliminary Geotechnical Investigation* recommends the employment of ground improvement techniques to density soils at depth. With incorporation of the following Mitigation Measure, impacts from liquefiable soils would be less than significant.

Lateral spreading can occur when a liquefied soil moves toward a free slope face during the cyclic earthquake loading. Liquefaction-induced lateral spreading can also occur on mild slopes (flatter than five percent) underlain by loose sands and a shallow groundwater table. Based on the site

topography and lack of topographical "free face" in the near vicinity the potential of lateral spreading on the project site is low and impacts from lateral spreading would be less than significant (PCE 2017).

Mitigation Measures

The following mitigation is required:

GEO-2 Reduction of Liquefaction Potential

Prior to issuance of a grading permit, the applicant shall submit to RMA Building Services for Building Official review and approval, a design-build ground improvement program prescribed by a qualified engineer to minimize liquefaction potential on the site. Measures to reduce liquefaction impacts could include, but may not be limited to specialized design of foundations by a structural engineer.

Liquefaction shall be reduced such that people and structures would not be exposed to a substantial adverse effect, including the risk of loss, injury, or death involving seismic-related liquefaction, nor be exposed to on- or off-site liquefaction as a result of the proposed project, as determined by a registered professional engineer and the Building Official.

To minimize construction-related vibration impacts of ground improvement techniques such as the vibro replacement stone column technique, piles shall not be driven within 20 feet of any existing, adjacent structures or fuel tanks unless a qualified engineer first certifies that the impacts of this technique to shake or crack foundations, or liquefy soil supporting these structures can be avoided. All ground improvement techniques shall reduce the liquefaction potential to an acceptable level, as determined by the Building Official, and shall be implemented by the applicant.

MONITORING ACTION

Prior to the issuance of building permits, the applicant shall submit a report prepared by a qualified, registered engineer to the Building Official for review and approval. The engineer's report shall address the requirements of this mitigation including but not limited to recommendations for adequate foundation design to avoid loss of life or injury resulting from liquefaction and, as applicable, addressing the potential for impacts of the construction of the recommending foundation on adjacent structures. The Building Official shall not approve a construction permit until potential impacts form liquefaction and construction are adequately addressed.

Prior to final building permits, the applicant shall submit written information from a qualified engineer to the satisfaction of the Building Official verifying that the mitigation has been satisfactorily completed.

Significance After Mitigation

Implementation of a design-build ground improvement program, as required by Mitigation Measure GEO-2, would ensure that the proposed project would not expose people or structures to a substantial adverse effect involving seismic-related liquefaction, nor would the project cause on-site soil to result in on- or off-site liquefaction. Impacts would be reduced to a less than significant level.

Threshold 2: Would the project result in substantial soil erosion or the loss of topsoil?

Impact GEO-3 CONSTRUCTION OF THE PROPOSED PROJECT COULD RESULT IN SOIL EROSION OR LOSS OF TOPSOIL. HOWEVER, COMPLIANCE WITH EXISTING REGULATIONS WOULD REDUCE IMPACTS TO A LESS THAN SIGNIFICANT LEVEL.

According to the NRCS soils mapping for the project site, the project site is underlain by two soil types, Metz fin sandy loam and Elder very fine sandy loam two- to nine percent slopes. The surface soils on the majority of the project site are composed of fill, which is generally silty sand with gravel. These soils are classified as having a high potential for erosion. Grading associated with construction would temporarily expose bare soils, which could be removed from the site and transported through wind shearing or stormwater runoff. Therefore, there could be substantial erosion or loss of topsoil during project construction.

The *Preliminary Geotechnical Investigation (PCE 2017)* recommends minimizing surface erosion by planting and maintaining the finished ground surface with ground cover. Specific and detailed recommendations regarding erosion control would be provided by the project engineer or an erosion control specialist when implementing stormwater requirements described below. As discussed in Section 4.6, *Hydrology and Water Quality*, implementation of an NPDES-compliant SWPPP and additional requirements detailed in Chapter 16.12 of the Monterey County Code of Ordinances and other applicable standards would be incorporated into the design of the project and would reduce potential impacts related to soil erosion by requiring project specific BMPs. Potential BMPs and erosion control measures include, but are not limited to filtered berms, vegetated filter strips, catch basins to prevent the escape of sediment from the disturbed area. Therefore, erosion impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Threshold 4: Would the project 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?

Impact GEO-4 THE PROJECT SITE IS NOT LOCATED ON A GEOLOGIC UNIT OR SOIL THAT IS UNSTABLE, AND WOULD NOT RESULT IN SOIL EXPANSION. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Topography at the project site is relatively flat and ranges in elevation from 26 feet to 30 feet above mean sea level at the highest knolls. Fill material has been dumped on the project site and there is a fill depth of approximately three to five feet. The site is directly underlain by sand with fines content on the order of 7 percent to 8 percent, which has a low potential for soil expansion. There are no substantial slopes on or adjacent to the project site and there is low potential for shallow or localized slope failures to occur (PCE 2017). The *Preliminary Geological Investigation* for the project states that there is a low potential for soil expansion on the project site, but recommends that import fill should have a Plasticity index between 4 and 12, and a minimum Resistance “R” Value of 30, and be non-expansive (PCE 2017). As such, construction of the proposed project would be guided by recommendations documented in the *Preliminary Geotechnical Investigation* prepared for the project (PCE 2017). Further, the project would be required to meet the current CBC standards for expansive soils, including foundation design or soil removal, in Section 1803.5.3 and Section 1808.6.0 of the CBC, as adopted by Monterey County Code Section 18.02.010. As described above,

implementation of the recommendations of the *Preliminary Geotechnical Investigation* prepared for the project (PCE 2017), and compliance with all applicable provisions of state and local standards would ensure the potential impacts related to soil expansion to a less than significant level.

Mitigation Measures

No mitigation is required.

c. Cumulative Impacts

The geographic scope for considering cumulative impacts to geology and soils is the project site along with the immediately adjacent areas. The geographic scope would also include off-site lands where earth movements at the project site could affect the local watershed. This scope is appropriate because geologic materials and soils occur at specific locales and are generally unaffected by activities not acting on them directly or immediately adjacent to them. In addition, any geologic impacts of the project would be site-specific.

Past, present, and reasonably foreseeable future projects in Carmel Valley, as shown in Table 5 in Section 3, *Environmental Setting*, would add approximately 537 dwelling units to the Carmel Valley. Such development would expose new residents and property to seismic and other geologic hazards. However, these seismic and soil issues are specific to each project and therefore, for purposes of this cumulative analysis, the geographic context is more narrow. It is expected that because of the site-specific nature of these issues, each development would be required to address said issues on a case-by-case basis through preparation of required soils and geotechnical engineering studies and adherence to the recommendations therein, in addition to adherence to existing local and state laws and regulations including the applicable CBC standards and requirements. Thus, the combination of the project with other cumulative developments would not have a significant cumulative impact. Furthermore, with adherence to the applicable laws and regulations, the project's contribution to any cumulative geology and soils impacts would be less than significant.

4.6 Hydrology and Water Quality

4.6.1 Summary

Table 21 summarizes the identified environmental impacts, proposed Mitigation Measures, and residual impacts of the proposed project with regard to hydrology and water quality. Additional detail is provided in Section 4.6.3 (Impact Analysis).

Table 21 Impact and Mitigation Summary: Hydrology and Water Quality

Impact	Mitigation Measures	Residual Impact
Impact H-1. Construction of the proposed project could potentially result in an increase in pollutant discharges to waters of the State. This impact would be significant but mitigable.	**H-1(a) Accidental Spill Control and Environmental Training** The applicant shall prepare a Spill Response Plan and Spill Prevision, Control and Countermeasure Plan. The Spill Response Plan (SRP) in combination with the Spill Prevention, Control and Countermeasure (SPCC) Plan to be prepared for the proposed project shall include procedures for quick and safe clean-up of accidental spills. The SRP and/or SPCC shall prescribe hazardous materials handling procedures for reducing the potential for a spill during construction, and shall include an emergency response program to ensure quick and safe clean-up of accidental spills. Additionally, an environmental training program shall be established to communicate environmental concerns and appropriate work practices, including spill prevention and response measures to all field personnel. A monitoring program shall be implemented to ensure that the plans are followed during all construction activities. **Monitoring Action:** Prior to the issuance of a grading permit, the applicant shall submit a Spill Response Plan and Spill Prevention, Control and Countermeasure Plan to the Director of the Environmental Health Bureau for review and approval. **H-1(b) Maintain Vehicles and Equipment** All vehicles and equipment, including all hydraulic hoses, shall be maintained in good working order to minimize leaks that could escape the vehicle or contact the ground. **Monitoring Action:** A vehicle and equipment maintenance log shall be updated and provided by the applicant to the County of Monterey RMA – Planning Department on a monthly basis for the duration of project construction. **H-1(c) Design-level Drainage Analysis and Minimization of Runoff** A design-level drainage analysis shall be prepared by a qualified engineer on behalf of the applicant prior to issuance of a grading permit that shall identify existing drainage patterns across the project site and existing off-site stormwater discharge locations. The drainage analysis shall quantify the existing and predicted post-construction peak runoff rates and amounts both on-site and off-site immediately downgradient of the project site. The drainage analysis shall identify any changes to the location of down-gradient discharge of stormwater runoff and any potential impacts on off-site property that would result from those changes. Stormwater control measures shall be developed to maximize on-site infiltration of stormwater and minimize off-site stormwater discharge. These stormwater control measures shall	Implementation of Mitigation Measures H-1(a) through H-1(d) would reduce impacts related to violation of water quality standards or waste discharge requirements to a less than significant level.

Impact	Mitigation Measures	Residual Impact
	be designed to achieve conformance with Monterey County General Plan Safety Element Policy S-3.1 such that post-development, off-site peak flow discharge from the project site would not be greater than pre-development peak flow discharge. The stormwater control measures may include, as necessary, additional or expanded above-ground retention and/or detention basins, stormwater collection tanks, subsurface infiltration devices such as cisterns with permeable bottoms or perforated pipes, permeable pavement, and vegetated swales. The stormwater control measures required by this mitigation may be used, in whole or in part, to satisfy other NPDES permits and the Monterey County Code. **Monitoring Action:** The design-level drainage analysis shall be submitted to and approved by Monterey County RMA – Public Works, Monterey County RMA – Environmental Services, and Monterey County Water Resources Agency prior to issuance of a grading permit. The identified stormwater control measures shall be installed when appropriate during the construction process, including during grading, initial site preparation, excavation, and construction as necessary to control stormwater runoff and erosion during all phases of the construction process. The installation of sufficient stormwater control measures to achieve conformance with the Monterey County General Plan Safety Element Policy S-3.1 threshold of post-development peak flow discharge less than or equal to pre-development peak flow discharge shall be demonstrated to the County prior to issuance of construction permits. **H-1(d) Stormwater Control Plan, Operation and Maintenance Plan, and Maintenance Agreements** Prior to issuance of occupancy permits, the applicant shall submit a Stormwater Control Plan, prepared by a registered professional engineer, addressing the Post-Construction Stormwater Management Requirements (PCRs) for Development Projects in the Central Coast Region. The plan shall include the location of the drainage facilities and construction details. A report with supporting calculations shall also be provided. The Stormwater Control Plan shall be reviewed by a licensed Geotechnical Engineer to ensure conformance with the Preliminary Geotechnical Investigation (PCE 2017) or Engineering Geology Report. Prior to issuance of occupancy permits, the applicant shall submit an Operation and Maintenance Plan to RMA Environmental Services for review and approval. The plan shall be prepared by a registered Professional Engineer and include, at a minimum, the following: ▪ A site map identifying all structural Stormwater Control Measures requiring O&M practices to function as designed ▪ O&M procedures for each structural Stormwater Control Measure including, but not limited to, LID facilities, retention/detention basins, and proprietorship devices, and ▪ The O&M plan shall include short- and long-term maintenance requirements, recommended frequency of maintenance, and estimated cost for maintenance. **Monitoring Actions:** Prior to issuance of occupancy permits, the applicant shall enter into a Maintenance Agreement with Monterey County. The applicant shall submit a signed and	

Impact	Mitigation Measures	Residual Impact
	notarized Maintenance Agreement to RMA Environmental Services for review and approval prior to filing against the property deed with the County Recorder. The agreement shall clearly identify the responsible party for ongoing maintenance of structural Stormwater Control Measures. The Agreement shall contain provisions for an annual report to be prepared by a registered Professional Engineer. The annual report shall be submitted to RMA Environmental Services, for review and approval, no later than August 15th. All recommended maintenance shall be completed by October 15th of that same year. If maintenance is required, certification shall be provided that all recommended maintenance has been completed before the start of the rainy season.	
Impact H-2. Changes in on-site infiltration capacity would not result in a net deficit in aquifer volume or a lowering of the local groundwater table level. Impacts would be significant but mitigable.	Implementation of **Mitigation Measure H-1(c)** and **Mitigation Measure H-1(d)**, above, would ensure that the amount of on- and off-site stormwater runoff would be reduced to the maximum extent feasible and that the post-development peak discharge rate would not exceed the pre-development peak discharge rate. The stormwater control measures required by these Mitigation Measures would also ensure that infiltration is maximized such that changes in on-site infiltration would not result in a lowering of local groundwater levels or substantially interfere with groundwater recharge.	Implementation of Mitigation Measures H-1(c) and H-1(d) would reduce potential impacts to a less than significant level.
Impact H-3. Construction and operation of the proposed project would alter the on-site topography and drainage patterns and increase the amount of on-site impervious surface, which could increase the rate and amount of on- and off-site runoff and result in erosion, flooding, and the need for expanded stormwater drainage facilities. This impact would be significant but mitigable.	**Mitigation Measure H-1(c) and Mitigation Measure H-1(d)**, above, would ensure that the amount and rate of on- and off-site stormwater runoff would be reduced to the maximum extent feasible. No additional mitigation is required.	Implementation of Mitigation Measures H-1(c) and H-1(d) would reduce potential impacts to a less than significant level.
Impact H-4. Construction of the project could impede or redirect flood flows, expose people or structures to a significant risk of loss, injury or death involving flooding. However, compliance with existing regulations, including the requirements to appropriately elevate the project site above the FEMA 100-year flood	No Mitigation Measures required.	Impacts would be less than significant.

Impact	Mitigation Measures	Residual Impact
elevation would reduce impacts to a less than significant level.		
Impact H-5. The project's water demand could be met with a combination of water credits and water purchase as a precondition to obtaining a building permit from the County, the applicant would be required to obtain a Water Permit from the Monterey Peninsula Water Management District that would evaluate and certify that sufficient water supplies are available to serve the project from existing entitlements and resources. As such, this impact would be less than significant.	No Mitigation Measures required.	Impacts would be less than significant.

4.6.2 Setting

a. Regional Hydrology

The California Department of Water Resources (DWR) divides surface watersheds in California into 10 Hydrologic Regions (HRs). The project site is located in the Central Coast Hydrologic Region. This region covers approximately 7.22 million acres and includes all of Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara counties, as well as parts of San Benito, San Mateo, Santa Clara, and Ventura counties. Major geographic features that define the region include the Pajaro, Salinas, Carmel, Santa Maria, Santa Ynez, and Cuyama valleys; the coastal plain of Santa Barbara; and the Coast Range. The region is largely defined by the northwest-trending southern Coast Range, with a climate generally classified as Mediterranean. The region is the most groundwater-dependent hydrologic region in California; approximately 80 percent of the supply in the region is sourced from groundwater (DWR 2004; MPWMD 2014).

Watersheds

The DWR subdivides Hydrologic Regions into Hydrologic Units (HUs), which are commonly known as watersheds. Within the Central Coast HR, the project site is located in the Carmel River HU (CDF 2004). The Central Coast Regional Water Quality Control Board (CCRWQCB) governs basin planning and water quality in the Carmel River HU (CCRWQCB, 2017). This 255 square mile, southeast-northwest trending watershed in the coast ranges of central Monterey County ranges in elevation between sea-level at the northwestern end and 4,500 to 5,000 feet near the southeastern headwaters of the Carmel River in the Santa Lucia Mountains (MPWMD 2014). The Carmel River watershed drains the Carmel Valley northwestward and feeds into the Carmel River, which meanders for 36 miles in a northwesterly direction merging with seven major stream tributaries

until it flows into the Pacific Ocean at Carmel Bay (MPWMD 2014). The terminus of the Carmel River with the Pacific Ocean is located approximately one mile west of the project site, just south of the City of Carmel-by-the-Sea, in Monterey County.

b. Surface Water

The approximately 3.8-acre project site sits on a river terrace associated with the Carmel River. The project site is generally flat and ranges in elevation from 26 feet to 30 feet above mean sea level with a slight slope generally towards the south and the Carmel River. Although the project site is located in a drainage area known as Hatton Canyon, which is shown in the National Hydrography Dataset (NHD) as an unnamed tributary flowing towards the south to the Carmel River, no defined stream channels cross the project site. Runoff and streamflow associated with the Hatton Canyon drainage area, also known as Drainage Area 29A (DA-29A) as defined in the County Service Area 50 Final Lower Carmel River Stormwater Management and Flood Control Report (CSA 50 Final Report), is intercepted upstream of the project site by an underground culvert and routed southward via a regional stormwater drainage system to the Carmel River (Balance Hydrologics 2014). A review of recent aerial imagery did not reveal the presence of any defined channels or riparian areas on the project site (USGS 2017).

The primary surface water resource in the vicinity of the site is the Carmel River, located approximately 1,000 feet to the south. The Carmel River and its seven main tributaries drain the Carmel Valley northwestward to where it discharges into Carmel Bay (MPWMD 2014). The Carmel River has an average annual runoff of 74,440 acre-feet (AF) for the period of record 1962-2013 (MPWMD 2014); however, due to the weather patterns of the region, surface water supplies can vary substantially year-to-year. There was no flow recorded for a 16-month period in portions of the river channel during the 1976-77 drought. The highest flow recorded by USGS was 368,000 AF during the 1982-83 El Niño event. Three of the largest flood events in the last 15 years include January 1995, March 1995, and February 1998. Recent drought flows for water year 2014 and 2015 were 12,140 and 13,420 AF, respectively. The most recent reported water year, 2016, had a flow of 41,710 AF (MPWMD 2016a), which is more than three times the drought flow in the river. Approximately 70 to 80 percent of the surface runoff in the Carmel River Watershed is generated from rainfall within the Los Padres National Forest (MPWMD 2014). Local drainages contribute to the Lower Carmel River/Lagoon Sub-Watershed of the Carmel River, although they do not convey significant volumes of runoff (The Watershed Institute 2004).

Surface Water Quality

Similar to many watersheds along the Central Coast of California, commercial and residential development is most dense near the coast and becomes progressively less dense in the upstream direction of the watershed. Stormwater runoff from urban and agricultural lands can be a source of water quality pollutants, including sediment, heavy metals, bacteria, pesticides, and fertilizers (RWQCB 2016). Failure to implement Best Management Practices (BMPs) and pollutant control measures for these pollutant sources can result in water quality degradation for nearby waterbodies (RWQCB 2016). Existing impairments to water quality in the Carmel River watershed and efforts to improve water quality and prevent further degradation are discussed below.

The Central Coast Regional Water Quality Control Board (CCRWQCB) regulates water quality in the Carmel River watershed and establishes water quality objectives and requirements for the quality of point and nonpoint sources of discharge through the Water Quality Control Plan for the Central Coastal Basin (Basin Plan). A point source of discharge is defined as waste emanating from a single,

identifiable point such as a wastewater treatment plant. A nonpoint source of discharge results from drainage and percolation of agricultural and urban stormwater runoff.

The Basin Plan defines beneficial uses of the Carmel River as municipal and domestic supply, agricultural supply, industrial process supply, groundwater recharge, freshwater replenishment, contact and noncontact recreation, commercial and sport fishing, warm and cold freshwater habitat, migration of aquatic organisms, reproduction and early development of fish, wildlife habitat, preservation of biological habitats of special significance, and support of habitats necessary for the survival and successful maintenance of rare, threatened, or endangered species (RWQCB 2016).

The Central Coast RWQCB assessed the Carmel River for potential pollutants that may impair one or more of its beneficial uses and found that this water body meets applicable water quality standards for the assessed pollutants. Therefore, the Carmel River is not included on the 2012 Clean Water Act Section 303(d) list of impaired water bodies (SWRCB 2017). Tularcitos Creek, a tributary to the Carmel River and the nearest impaired waterbody to the project site, is listed on the 2012 303(d) list as impaired by Chloride, Fecal Coliform, and Sodium (SWRCB 2017). A Total Maximum Daily Load (TMDL) is required to address each of these pollutants but none has been developed as of this date. The confluence of Tularcitos Creek and the Carmel River lies approximately 14 miles upstream of the proposed project site and therefore the creek is hydrologically disconnected from the project site. Although the creek is located nearby to the project site, existing impairments in the creek are unrelated to past or present activities on the site. The Pacific Ocean at Stillwater Cove, which is located downstream of the project site approximately three miles north of the mouth of the Carmel River, is listed on the 2012 303(d) list as impaired by bacteria (Enterococcus). A TMDL is required to address this pollutant, but has not yet been developed. Stillwater Cove is downstream of the proposed project site.

The Monterey Peninsula Water Management District (MPWMD) has monitored surface-water quality in the Carmel River since 1991. This monitoring is used to help assess whether or not water-quality criteria for aquatic life are being met in various reaches of the Carmel River, and whether habitats for resources such as the South-Central Coast steelhead (*Oncorhynchus mykiss*) and California red-legged frogs (*Rana aurora draytonii*) are being sustained or impaired in the Carmel River (MPWMD 2017). Ambient conditions in surface waters are measured by dissolved oxygen, carbon dioxide, pH, temperature, turbidity, conductivity, and salinity, while groundwater is monitored for specific conductance, total alkalinity, pH, chloride, sulfate, ammonia nitrogen, nitrate nitrogen, total organic carbon, calcium, sodium, magnesium, potassium, iron, manganese, orthophosphate, and boron.

MPWMD has found that, in general, dissolved oxygen, carbon dioxide, and pH levels in the main stem of the Carmel River meet the Basin Plan objectives set by the CCRWQCB. However, average daily water temperature during the late summer and fall commonly exceeds the range for optimum steelhead growth (50-60°F). Monitoring stations along the river show that water temperature during these months remains in a stressful range and can reach levels that threaten aquatic life (above 70°F). Linear trend analysis of data from the eight-year period between 1996 and 2004 at the Garland Park station, where water temperature annually exceeded 70°F, showed a slight downward trend in maximum daily water temperature. This may have been due to the recovery of the riparian zone upstream and the shade it provides along the river. Additional data collected between 2004 and 2008 continue to show temperatures exceeding objectives, particularly at or downstream of existing reservoirs. Water temperature in winter and spring is frequently in the range that is considered optimal for steelhead growth (MPWMD 2017). A recent study showed a statistically

significant downward trend in surface water temperature along the length of the Carmel River during a 16-year period from 1996 to 2011 (MPWMD 2014).

Turbidity in the main stem of the Carmel River is normally low, except during the winter months when storm runoff events can elevate turbidity for several days during and after a storm event. Very wet years, such as in 1998, can cause extensive landslides and bank erosion, which can increase turbidity in the main stem for up to several months. This elevated turbidity in the river signifies an increased amount of sediment transport from the watershed to the mouth of the river, which includes the Carmel River Lagoon. Water quality in the lagoon typically declines during late summer and fall as freshwater inflows cease and a sand bar forms that closes off the mouth of the river. Subsequently, ocean waves start to overtop the sandbar at the mouth of the river. Water temperature often exceeds 70°F, which is above Basin Plan guidelines. Dissolved oxygen levels also periodically drop below guidelines (not less than 7.0 mg/L), probably due to a combination of increasing water temperature and decomposition of marine organic material washed into the lagoon by high ocean waves (MPWMD, 2017).

The Carmel River watershed discharges into the Pacific Ocean in the Carmel Bay Area of Special Biological Significance (ASBS), a 6.2-mile section of the coastline bordering the City of Carmel-by-the-Sea, which was designated by the State Water Resources Control Board (SWRCB) as requiring protection (SWRCB 2017b). The Carmel Bay ASBS is contained within the federally protected Monterey Bay National Marine Sanctuary (MBNMS), which runs 276 miles from Marin County in the north to northern San Luis Obispo County in the south and extends an average of 30 miles offshore. The Carmel Bay State Marine Conservation Area (SMCA) and a portion of the Carmel Pinnacles State Marine Reserve (SMR) are contained within the Carmel Bay ASBS. The Carmel Bay ASBS is affected by various types of runoff, including stormwater runoff that enters the bay from the Carmel Valley, City of Carmel-by-the-Sea, and the Pebble Beach area watersheds (County of Monterey 2014). Under existing conditions, runoff leaving the project site enters the Carmel River as overland flow or through the regional stormwater drainage system and travels to the Carmel Bay. Pollutants potentially present in stormwater runoff from the project site and the surrounding area include fertilizers, pesticides, metals, hydrocarbons, trash, and bacteria.

c. Groundwater

The project site overlays the Carmel Valley Alluvial Aquifer (CVAA; also referred to as the Carmel Valley Groundwater Basin by the California Department of Water Resources [DWR]). The CVAA has a surface area of approximately 5,160 acres, or eight square miles (DWR 2004). This area has been defined by MPWMD and SWRCB as the water-bearing strata directly associated with the Carmel River (MPWMD 2014). The aquifer underlying and closely paralleling the surface course of the Carmel River is water flowing in a subterranean stream and subject to the jurisdiction of the SWRQB (DWR 2004). The groundwater basin consists of younger alluvium and river deposits, and older alluvium and terrace deposits. These deposits are underlain by Monterey Shale and Tertiary sandstone units. The primary water bearing formation is the younger alluvium with a typical thickness of 50 to 100 feet. The younger alluvium consists of boulders, gravel, sand, silt, and clay. The thickness varies from approximately 30 feet in the upper basin to about 180 feet near the mouth of the basin (DWR 2004). The Carmel River is the primary source of recharge for the basin contributing approximately 85 percent of net recharge (DWR 2004).

Groundwater Quality

The Basin Plan defines the beneficial uses of groundwater in the CVAA as agricultural water supply (AGR), municipal and domestic water supply (MUN), and industrial use (IND). The Basin Plan established water quality objectives for groundwater (including the CVAA) for bacteria, chemical constituents, organic chemicals, radioactivity, and tastes and odors (RWQCB 2016). Groundwater quality constituents of concern in the CVAA are nitrates from septic tanks, iron, and manganese (DWR 2014). MPWMD has maintained a groundwater-quality monitoring program in the Carmel Valley Aquifer since 1981. The sampling schedule for Carmel Valley is staggered, with upper valley wells sampled in spring and lower Carmel Valley wells in fall, to coincide with the historically higher nitrate concentrations in these respective areas. MPWMD is particularly interested in tracking indicators of potential seawater intrusion in the coastal portion of Carmel Valley. Test wells near the Carmel Bay show there is a slight increasing trend in Specific Electrical Conductance (SEC) and Chloride from 2008 to 2015, after a noticeable decline from 2006 to 2008. Testing 6.72 miles from the river mouth show both an increasing trend in SEC and Chloride from 2008 to 2011, after a noticeable decline from 2006 to 2008, but in 2012 both constituents were lower than in 2011 (MPWMD 2016). Groundwater withdrawals for water supply in the lower portion of the basin must be treated for iron and manganese prior to distribution (DWR 2014).

Groundwater Levels

Approximately 85 percent of the water entering the Carmel River Aquifer percolates through the bed of the Carmel River. Tributary drainages, infiltration of precipitation, subsurface inflow, and return flow from irrigation and septic systems provide additional recharge (CRWC 2016). Although the storage capacity for the CVAA is not known with certainty, estimates range from 36,000 to 60,000 acre-feet (DWR 2004). Groundwater levels in the CVAA recover rapidly with the presence of surface water and range from five to 30 feet below ground surface (bgs) when the basin is fully recharged (DWR 2004). Groundwater levels typically fluctuate between 5 and 15 feet during normal years and can experience declines up to 50 feet during drought years (DWR 2004).

Due to groundwater pumping by private well owners and California American Water (CalAm) during the spring and summer, the Carmel River commonly does not flow to the ocean during the summer and fall. The lower six miles of the river is dewatered during normal years and runs dry up to nine miles from its terminus during dry years (MPWMD 2014). In 1995, the SWRCB issued Order No. WR 95-10, which found that CalAm was diverting more water from the Carmel River than it was allowed. On October 21, 2009, the SWRCB issued Cease and Desist Order (CDO) WR 2009-0060, *Authorizing and Imposing a Moratorium on Certain New or Expanded Water Service Connections for the California-American Water Company in its Monterey District*, to prescribe a series of substantial cutbacks to CalAm's pumping from the Carmel River alluvial aquifer from 2010 through December 2016. Under the SWRCB CDO, CalAm's customers may be subject to water rationing, a moratorium on water permits for new construction and remodels, and fines if pumping limits are exceeded. Recently, the SWRCB issued an amendment to extend CalAm's CDO until December 31, 2021 (Order WR 2016-0016). The revised order accommodates the anticipated pace of approval and implementation of several proposed projects, including the Monterey Peninsula Water Supply Project, the Pure Water Monterey Ground Water Replenishment Project, and the Aquifer Storage and Recovery Project (each described below under *Water Supply Sources*). The revised order maintains an effective diversion limit of 8,310 afy through 2021, contingent on the achievement of milestones towards the proposed water supply projects. For each milestone that is missed, the effective diversion limit is reduced by 1,000 afy until the diversion is reduced down to the legal limit.

Water Supply Sources

CalAm derives supply from wells in the CVAA (described above) and the Seaside Groundwater Basin. The Seaside Groundwater Basin is oversubscribed resulting in an adjudication of the basin and actions to reduce basin withdrawals to a sustainable level over time (Monterey County 2015b).

On March 24, 2011, the California Public Utilities Commission approved CalAm's request for a moratorium in its Monterey District service area (which serves areas of the Monterey Peninsula, from Sand City and Seaside in the north, to Carmel Highlands in the south) for new or expanded water service connections for projects that obtained all of their governmental permits after October 20, 2009.

Following the SWRCB Order 95-10 and COD WR 2009-0060, CalAm stated that the significant decrease in the use of the CVAA for the area's water supply could not be achieved without a new water project and has protested the COD in Monterey County Superior Court. Since Order 95-10 was issued, CalAm states that water consumption has been decreased by more than 20 percent through water conservation efforts.

To help reduce its reliance on water from the Seaside Area Subbasin and from the Carmel River watershed, CalAm has proposed the Monterey Peninsula Water Supply Project (MPWSP) as a potential new, reliable water supply for its customers. The MPWSP would include construction and operation of an ocean water desalination plant. Analysis for the MPWSP under NEPA and CEQA is currently underway.

The Pure Water Monterey Ground Water Replenishment Project (GWR) has also been proposed by the MPWMD and the Monterey Regional Water Pollution Control Agency (MRWPCA) as part of the regional water supply solution. The GWR proposes to purify wastewater, agricultural water, and stormwater using an advanced water treatment system with subsequent injection of the purified water into the Seaside Basin for later extraction and distribution as potable water. Construction for this project is currently underway.

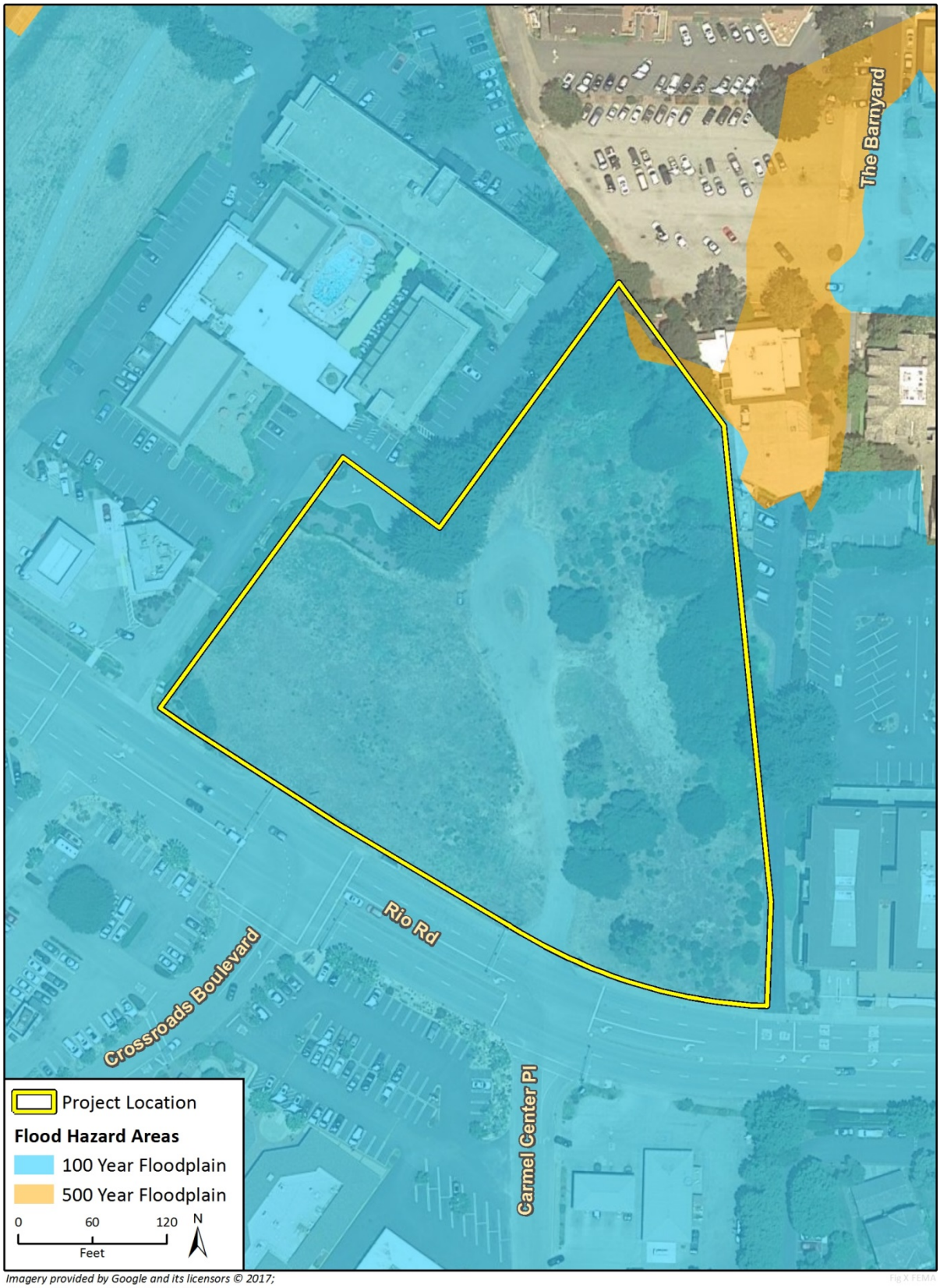
The Aquifer Storage and Recovery project is a partnership between MPWMD and CalAm that would divert excess Carmel River winter flows via CalAm's distribution system to injection wells in the Seaside Groundwater Basin. The initial phase of this project is operational, and a subsequent phase would inject water produced by a desalination facility into the groundwater basin.

d. Flood Hazards

FEMA Flood Hazard Zones

The Federal Emergency Management Agency (FEMA) establishes base flood heights for the 100-year flood zone and the 500-year flood zone. The 100-year flood zone is defined as the area that could be inundated by a flood which has a one percent probability of occurring in any given year, or once every 100 years. The 500-year flood zone is defined as the area that could be inundated by a flood which has a 0.2 percent probability of occurring in any given year, or once in 500 years. As shown in Figure 22, which presents data from the Digital Flood Insurance Rate Map for the area, almost the entire project site is located in a 100-year flood hazard zone, Zone AE (FEMA 2017). A very small area in the northernmost portion of the project site is located in the 500-year floodplain, and an even smaller area in the same portion of the project site is located outside of both the 100-year and 500-year floodplains. The 100-year floodplain on the project site is primarily associated with

Figure 22 FEMA Flood Zones



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Additional data provided by FEMA, 2017.

overbank flows from the main stem of the Carmel River, and to a lesser extent with interior drainage that overwhelms the existing stormwater drainage system (Balance Hydrologics 2014). The project site is located in the Hatton Canyon drainage area, also known as DA-29A (Balance Hydrologics 2014). The Hatton Canyon channel is predicted to overtop its banks immediately upstream from the inlet to the 72-inch diameter storm drain during large flood events (Balance Hydrologics 2014). Flood modeling results for this drainage predict a peak overflow rate of 288 cfs and an overtopping volume of 17 acre-feet during a 100-year storm event (Balance Hydrologics 2014). The CSA 50 Final Report recommends several flood control improvements to protect properties in the DA-29A drainage area, including levee improvements, installation of a backflow preventer at the outlet of the DA-29A stormwater trunk line, and increasing the capacity of the DA-29A trunk line (Balance Hydrologics 2014).

Dam Inundation

The site is not susceptible to flooding due to the failure of a dam. The Los Padres Dam is the nearest dam, located approximately 23 miles to the southwest of the project. The storage capacity of the Los Padres Reservoir has been reduced due to sedimentation from its original capacity of 3,130 acre-feet to its current capacity of approximately 1,785 acre-feet. Even if the Los Padres Dam were to fail when the reservoir was full, the amount of water that would be released would not result in substantial flooding at the project site, which lies more than 20 miles downstream of the dam. Peak flow in the Carmel River near the project site following failure of the Los Padres Dam would be substantially less than the FEMA estimated 100-year flood event peak flow of 23,300 cubic feet per second (cfs).

Tsunami and Seiche and Mudflow

A tsunami is a series of waves generated by an impulsive disturbance in the ocean or in a small, connected body of water. Tsunamis are produced when movement occurs on faults in the ocean floor, usually during very large earthquakes. Sudden vertical movement of the ocean floor by fault movement displaces the overlying water column, creating a wave that travels outward from the earthquake source. An earthquake anywhere in the Pacific can cause tsunamis around the entire Pacific basin. Since the Pacific Rim is highly seismically active, tsunamis are not uncommon.

A seiche is a standing wave oscillating in a body of water and may occur in any enclosed or semi enclosed bodies of water such as bays and lakes. Seiches are typically caused by strong wind and rapid changes in atmospheric pressure. They can also form along ocean shelves and harbors due to earthquakes, tsunamis, or severe storm fronts.

The outlet of the Carmel River and Carmel Valley is susceptible to tsunamis and seiches due to its location along the Pacific Coast and within Carmel Bay. According to the Tsunami Inundation Map for Emergency Planning for the Monterey Quadrangle, a tsunami could inundate up to 0.6-mile inland from the mouth of the Carmel River (California Emergency Management Agency [CalEMA] 2009).The project site is located approximately 1.1-mile east of the shoreline with an elevation of approximately 25 feet above mean sea level (amsl).

Mudflow can occur following heavy precipitation when soils become highly saturated and flow downslope. The soil-water mixture behaves more as a liquid than a landslide. The project site is generally flat, with a very slight slope towards the south. Much of the land surrounding the project site is either developed and paved or covered with mature, established vegetation. Stormwater runoff is managed through a regional stormwater conveyance system.

e. Regulatory Setting

Federal

Federal Clean Water Act

In 1972, Congress passed the Federal Water Pollution Control Act, commonly known as the Clean Water Act (CWA), with the goal of "restor[ing] and maintain[ing] the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). The CWA directs states to establish water quality standards for all "waters of the United States" and to review and update such standards on a triennial basis. Section 319 mandates specific actions for the control of pollution from non-point sources. The EPA has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs, such as the National Pollutant Discharge Elimination System (NPDES) Program, to the SWRCB and the RWQCBs.

Section 303(c)(2)(b) of the CWA requires states to adopt water quality standards for all surface waters of the United States based on the water body's designated beneficial use. Water quality standards are typically numeric, although narrative criteria based upon biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numerical standards. Water quality standards applicable to the project are contained in the Basin Plan (RWQCB 2016).

Section 303(d) of the CWA bridges the technology based and water quality-based approaches for managing water quality. Section 303(d) requires that states make a list of waters that are not attaining standards after the technology-based limits are put into place. For waters on this list (and where the USEPA administrator deems they are appropriate), states are to develop "total maximum daily loads" (TMDL). TMDLs are established at the level necessary to implement the applicable water quality standards. A TMDL must account for all sources of the pollutants that caused the water to be listed. Carmel River near the project site is not an impaired water body and is not subject to any TMDLs.

Section 404 of the CWA prohibits the discharge of any pollutants into "waters of the United States," except as allowed by permit. Section 404 of the CWA authorizes the U.S. Army Corps of Engineers (Corps) to issue permits for and to regulate the discharge of dredged or fill materials into wetlands or other waters of the United States. Under the CWA and its implementing regulations, "waters of the United States" are broadly defined to consist of rivers, creeks, streams, and lakes extending to their headwaters, including adjacent wetlands.

National Pollution Discharge Elimination System (NPDES)

The goal of the NPDES regulations is to improve the quality of stormwater discharged to receiving waters through the use of Best Management Practices (BMPs). The NPDES permit system was established in the CWA to regulate point source discharges (a municipal or industrial discharge at a specific location or pipe) and certain types of diffuse discharges, including urban stormwater and construction site runoff.

The SWRCB permits regulated construction activities under NPDES General Permit for Storm Water Discharges Associated with Construction Activity (adopted September 2, 2009) (the "Construction General Permit"). Every construction project that disturbs one or more acres of land surface or that is part of a common plan of development or sale that disturbs more than one acre of land surface requires coverage under this Construction General Permit. To obtain coverage under this Construction General Permit, the landowner or other applicable entity must file Permit Registration

Documents (PRDs) prior to the commencement of construction activity, which include a Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and other documents required by the Construction General Permit, and mail the appropriate permit fee to the SWRCB. Since the proposed project would disturb more than one acre (3.8 acres), construction of the project would be subject to these Construction General Permit requirements.

Construction activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as stockpiling or excavation, that result in soil disturbances of at least one acre of total land area. The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that 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. BMPs are intended to reduce impacts to water quality.

State

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act establishes the SWRCB and each RWQCB as the principal State agencies for coordinating and controlling water quality in California. Specifically, the Porter-Cologne Act authorizes the SWRCB to adopt, review, and revise policies for all surface waters and groundwater of the State and directs the RWQCBs to develop regional Basin Plans.

The Central Coast RWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters in its jurisdiction. As described previously, water quality objectives for receiving waters within Monterey County are specified in the Basin Plan prepared by the Central Coast RWQCB in compliance with the federal CWA and the State Porter Cologne Act. The principal elements of the Basin Plan are a statement of beneficial water uses protected under the plan; water quality objectives necessary to protect the designated beneficial water uses; and strategies and time schedules for achieving the water quality objectives. Together, narrative and numerical objectives define the level of water quality that shall be maintained in the region. The water quality objectives are achieved primarily through the establishment and enforcement of waste discharge requirements (WDRs).

The RWQCBs have primary responsibility for issuing WDRs. The RWQCBs may issue individual WDRs to cover individual discharges or general WDRs to cover a category of discharges. WDRs may include effluent limitations or other requirements that are designed to implement applicable water quality control plans, including designated beneficial uses and the water quality objectives established to protect those uses and prevent the creation of nuisance conditions. Violations of WDRs may be addressed by issuing Cleanup and Abatement Orders (CAOs) or Cease and Desist Orders (CDOs), assessing administrative civil liability, or seeking imposition of judicial civil liability or judicial injunctive relief.

State Water Resources Control Board Order WR 2016-0016

In 1995, the SWRCB adopted WR 95-10, which found that CalAm was diverting more water from the Carmel River than they were allocated. WR 95-10 ordered them to decrease their water diversion to their legally allocated amount. In 2009, the SWRCB issued a cease and desist order (CDO) (WR 2009-0060) against CalAm because they had continued to draw 10,730 acre feet annually, which is 7,150 acre feet more than they are allocated, for the 13 years after WR 95-10 was adopted. As a result of the CDO, CalAm would have to decrease the amount of water diverted from the Carmel to 3,376

acre-feet by 2016. This is a 70 percent reduction in the amount of water diverted from 2009 to 2016. That reduction target was based on the assumption that a regional desalination plant would be built, enabling the area's municipal water needs to be met by new water supplies. It subsequently became clear that no desalination plant will be in operation by the end of 2016, and CalAm proposed modifying the compliance schedule to accommodate the anticipated pace of approval and implementation of several proposed water supply and conservation projects. The adopted Order WR 2016-0016 sets water supply and conservation project milestones, an effective diversion limit of 8,310 acre-feet per annum (afa) through December 31, 2021, and effective diversion limit penalties for failure to achieve water supply milestones.

Central Coast Regional Water Quality Control Board Resolution No. R3-2013-0032

The Central Coast RWQCB adopted post-construction requirements that municipal stormwater permittees must apply to new development and redevelopment projects that create or replace certain amounts of impervious surface to protect the beneficial uses of waters of the State. The performance requirements include site design and runoff reduction measures, water quality treatment measures, stormwater control plan requirements, runoff retention requirements, and peak runoff management requirements. The County's Resource Management Agency – Environmental Services Divisions implements this requirement on behalf of Monterey County.

Local

Monterey County 2010 General Plan

The Monterey County General Plan contains numerous policies related to hydrology and water quality. Policy OS-3.3 requires evaluation and design components to minimize and avoid potential hazards related to drainage, water quality and stream stability associated with new development and changes in land use designations. Policy OS-4.2 requires direct and indirect discharges of harmful substances into waterbodies to remain below state and federal standards. The Safety Element requires BMPs to protect groundwater and surface water quality, to ensure conformance with floodplain development standards, and to maintain and mitigate post-construction peak-flow drainage impacts. The Public Services Element requires the provision of adequate public facilities and services (including an adequate water supply and adequate stormwater drainage systems) and the implementation of measures to minimize runoff and enhance groundwater recharge. Policy PS-3.1 requires the demonstration of a long-term sustainable water supply for all new developments.

Carmel Valley Master Plan

The project site is located within unincorporated Monterey County in the Carmel Valley Master Plan (CVMP) area. Applicable CVMP policies related to hydrology and water quality include requirements that construction and operation of new development: reduce potential erosion by limiting the amount of land cleared at any one time; incorporate designs with water reclamation, conservation and new source production; not create adverse impacts on groundwater quality or quantity; and not impact the flow or vegetation of the Carmel River.

Monterey County Code, Chapter 16.98, Grading

Monterey County Code Chapter 16.08 regulates grading activities. The purpose of these regulations is to minimize erosion, protect fish and wildlife, and to otherwise protect the environment. A grading permit is required for all activities that would exceed 100 cubic yards of grading. Section

16.08.330 requires that where grading operations obstruct and/or otherwise impair the flow or runoff of a drainage course, appropriate drainage facilities are required to be implemented to convey flows past the point of obstruction. Monterey County Code Chapter 16.08 also contains measures to protect water quality from grading related activities and associated erosion. These requirements are codified in Section 16.08.340 of the Monterey County Code, which requires that all areas disturbed in connection with grading related activities shall be consistently maintained to control erosion. The project would be required to comply with these requirements.

Monterey County Code, Chapter 16.12, Erosion Control

Monterey County Code Chapter 16.12 requires that development activities control runoff to prevent erosion. Per Section 16.12.060, an erosion control plan is required to be submitted to the County of Monterey prior to any land disturbing activities. This plan is required to indicate methods to control erosion. Per Section 16.12.070, runoff control must be implemented to control runoff from a 10-year storm event. All runoff must be detained or dispersed so that the runoff rate does not exceed the pre-development level. Any concentrated runoff which cannot be effectively detained or dispersed without causing erosion is to be carried in non-erodible channels or conduits to the nearest drainage course designated for such purpose or to on-site percolation devices with appropriate energy dissipaters to prevent erosion at the point of discharge. Runoff from disturbed areas must be detained or filtered by berms, vegetated filter strips, catch basins, or other means as necessary to prevent the escape of sediment from the disturbed area. The project would be required to comply with these requirements.

Monterey County Code, Chapter 16.14, Urban Stormwater Quality Management and Discharge Control

Monterey County Code Chapter 16.14 of the Monterey County Code contains regulations to enhance watercourses within the unincorporated urbanized areas of Monterey County by, amongst other things, controlling the entry of urban pollutants into stormwater runoff that may enter the County storm drain system. This chapter assures consistency with the Clean Water Act and the State stormwater general permit and applies to all dischargers or potential dischargers located within the County's unincorporated urbanized areas that discharge into the County storm drain system, with the exception of agriculture. To protect stormwater quality, this chapter prohibits specific discharges and conditions, and establishes requirements for containment and notification of spills. Further, this chapter gives the County authority to conduct inspections and establishes requirements for reporting potential violations. The project would be required to comply with the County's Stormwater Quality Management and discharge control requirements.

Monterey County Code, Chapter 16.16, Flood Control and Floodplain Management

Monterey County Code Chapter 16.16 contains regulations for floodplains. This chapter discusses general and specific standards to prevent flood damage and applies to all development in Special Flood Hazard Areas identified on FEMA Flood Insurance Rate Maps (FIRMs). These requirements apply to all areas within the 100-year floodplain, as well as areas within 200 feet of a river or 50 feet of a water course. Monterey County Code Section 16.16.050(k) requires a setback of 200 feet from the top of the bank of a river and 50 feet from the top of the bank of a watercourse. Encroachment within these setbacks is prohibited unless it can be proven that: 1) the proposed development would not significantly reduce the capacity of existing rivers or watercourses or otherwise adversely affect any other properties by increasing stream velocities or depths, or diverting the flow; and 2)

the proposed new development would be safe from flow related erosion and would not cause flow related erosion hazards or otherwise aggravate flow erosion hazards.

Monterey Peninsula Water Management District (MPWMD)

The Monterey Peninsula Water Management District (MPWMD) is charged with the integrated management of all ground and surface water resources in the Monterey Peninsula area. MPWMD Rule 30 requires the District to establish a specific Allocation for each Jurisdiction and provides that the District also may establish Water Entitlements as necessary to manage water supplies throughout the District. The project will require a Water Entitlement from MPWMD.

4.6.3 Impact Analysis

a. Methodology and Significance Thresholds

This section describes the potential environmental impacts of the proposed project relevant to hydrology and water quality. The impact analysis is based on an assessment of baseline conditions for the proposed project area, including climate, topography, watersheds and surface waters, groundwater, and floodplains, as described in Section 4.6.2, Setting. This analysis identifies potential impacts based on the predicted interaction between the affected environment and construction and operation of the proposed project, and recommends Mitigation Measures, when necessary, to avoid or minimize impacts.

In accordance with Appendix G of the *CEQA Guidelines*, impacts would be significant if the proposed project would result in any of the following:

1. Violate any water quality standards or waste discharge requirements;
2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
4. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
5. 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;
6. 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;
7. Otherwise substantially degrade water quality;
8. 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;
9. Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
10. 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;
11. Be subject to inundation by seiche, tsunami, or mudflow; and/or

12. Have insufficient water supplies available to serve the project from existing entitlements and resources, such that new or expanded entitlements are needed.

As discussed above in Section 4.6.2, Setting, the project site would not be subject to inundation by seiche, tsunami, or mudflow. As discussed in Section 2, *Project Description*, the project does not include housing; therefore, it would not expose housing within a 100-year flood hazard area. These potential impacts were found to be not relevant to the proposed project site and therefore are not discussed further in this section. Further discussion regarding Thresholds 8 and 11 can be found in Section 4.9, *Effects Found not to be Significant.*

b. Project Impacts and Mitigation Measures

Threshold 1:	Would the project violate any water quality standards or waste discharge requirements?
Threshold 7:	Would the project otherwise substantially degrade water quality?

Impact H-1 CONSTRUCTION OF THE PROPOSED PROJECT COULD POTENTIALLY RESULT IN AN INCREASE IN POLLUTANT DISCHARGES TO WATERS OF THE STATE. THIS IMPACT WOULD BE SIGNIFICANT BUT MITIGABLE.

Construction

Construction of the proposed project would include grading and fill activities, construction of four commercial retail buildings totaling 42,310 square-feet, construction of parking areas, sidewalk improvements, landscaping, installation and potential realignment of utilities, abandonment of two existing on-site wells, and construction and/or improvement of drainage facilities. The topography of the site, the amount of soil disturbance, the duration that disturbed soil would be exposed, the amount of rainfall and wind that would occur during construction, and the proximity of the nearest waterbody all affect the potential for water quality degradation during construction.

Construction of the proposed project could result in soil erosion due to earth-moving activities such as excavation and trenching for foundations and utilities, soil compaction and moving, cut and fill activities, and grading. Although the project site is generally flat, runoff from DA-29A during a large storm event can occur as sheet flow and peak runoff rates during a 100-year storm are predicted to reach 288 cubic feet per second (Balance Hydrologics 2014). This amount of runoff has the potential to result in substantial amounts of erosion, resulting in off-site sediment transport via stormwater. The types of pollutants contained in runoff from construction sites would be typical of urban areas, and may include sediments and contaminants such as oils, fuels, paints, and solvents. Additionally, other pollutants, such as nutrients, trace metals, and hydrocarbons, can attach to sediment and be transported downstream to the Carmel River and ultimately into the Pacific Ocean in the Carmel Bay Area of Special Biological Significance, contributing to degradation of water quality.

Construction of the proposed project could also potentially result in the accidental release of hazardous materials such as diesel fuel, gasoline, lubricant oils, hydraulic fluid, antifreeze, transmission fluid, cement slurry, and other fluids required for the operation of construction vehicles or equipment. Motorized equipment used at the project site during construction could also leak the previously described hazardous fluids due to inadequate or improper maintenance, unnoticed or unrepaired damage, improper refueling, or operator error. These accidentally released or leaked hazardous materials could directly or indirectly impact water quality. Direct contamination

of surface water is unlikely because no defined stream channels or perennial waters are present on the project site; the closest waterbody to the project site is the Carmel River, which is located approximately 1,000 feet to the south. However, accidental spills or releases of hazardous materials could indirectly impact water quality through runoff during a subsequent storm event, when the spilled material could come in contact with or be washed into flowing water and eventually enter the Carmel River. Similarly, groundwater could be contaminated through direct or indirect contact with potentially harmful or hazardous materials.

Because construction of the proposed project would disturb one or more acres of land surface, it would be subject to the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2012-0006-DWQ) adopted by the SWRCB. Compliance with the permit requires each qualifying development project to file a Notice of Intent with the SWRCB. Permit conditions require development of a SWPPP, which must describe the site, the facility, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of construction sediment and erosion control measures, maintenance responsibilities, and non-stormwater management controls. Inspection of construction sites before and after storms is also required to identify stormwater discharge from the construction activity and to identify and implement erosion controls, where necessary.

Implementation of the required SWPPP would reduce the potential for accidentally released or leaked hazardous materials to contaminate a waterbody following a storm event. Implementation of mitigation to develop a spill response plan and an environmental training program and to properly maintain vehicles and equipment would further reduce the risk of water quality degradation through the accidental release or leak of hazardous materials.

The proposed project would involve more than 100 cubic yards of grading and would require a grading permit and an erosion control plan in accordance with Monterey County Code. The grading permit includes requirements to consistently maintain the construction site to control erosion. The erosion control plan requires control of runoff from a 10-year storm event, and all runoff must be detained or dispersed so that the runoff rate does not exceed the pre-development level. Concentrated runoff that would result in erosion must be directed via non-erodible channels (such as a storm drainage pipe or culvert) to the nearest drainage that is approved for receipt of stormwater flows or to on-site percolation devices such as infiltration basins. Runoff from disturbed areas must be detained or filtered to prevent the escape of sediment from the disturbed area.

General Plan Safety Element Policy S-3.2 requires implementation of BMPs to protect groundwater and surface water quality. Water quality BMPs would be implemented through development of the required SWPPP, which will specify a range of management practices and physical solutions to reduce or prevent polluted runoff from leaving the project site. CVMP Safety Element Policy CV-4.1 limits the amount of land cleared at any one time to the area that can be developed during one construction season. This limitation will be included in the grading permit that the County would issue for the proposed project.

Compliance with the regulations discussed above would reduce the risk of water degradation on- and off-site from soil erosion and other pollutants related to construction activities. Implementation of mitigation to develop a design-level drainage analysis and identify measures to reduce runoff by promoting infiltration would further reduce the potential for soil erosion and contaminated runoff. Because violations of water quality standards and waste discharge requirements and the potential for water quality degradation would be minimized, impacts to water quality from construction of the proposed project would be less than significant with implementation of mitigation.

Operation

Operation of the proposed project would result in a substantial net increase of impervious surfaces. All but a small portion of the project site is currently unpaved and development of the proposed project would result in impervious surfaces such as rooftops and pavement covering a majority of the site. Without implementation of appropriate project design elements, BMPs, and pollutant control measures, volumes or rates of discharge and associated pollutants in runoff would increase compared to current conditions. Additionally, operation of the proposed project could potentially result in the addition of contaminants into the stormwater runoff entering the local stormwater drainage system. If stormwater controls are not designed or maintained properly, runoff from the project site could contain contaminants such as oil, grease, metals, and landscaping chemicals (pesticides, herbicides, fertilizers, etc.) that could enter the local stormwater drainage system and ultimately degrade surface water and groundwater quality. The current plans for the proposed project describe several stormwater quality management measures, such as bioswales, green roofs, and permeable pavement. The required Stormwater Control Plan would describe these stormwater quality management measures at an engineering level of detail and would quantify the volume of stormwater that would be treated and the volume of post-development runoff that would leave the project site during both average and peak flow conditions. With implementation of the required Stormwater Control Plan and compliance with applicable regulations, this impact would be less than significant.

General Plan Safety Element Policy S-3.3 requires installation of drainage facilities concurrent with new development to mitigate the post-development peak flow impact of new development. Mitigation is required, as described below, to ensure that post-construction peak discharge from the project site would not exceed pre-development peak discharge, consistent with these policies. Monterey County General Plan Safety Element Policy S-3.1 requires that on-site improvements or other methods for storm water detention shall be required to maintain post-development, off-site, peak flows at no greater than predevelopment levels, where appropriate, as determined by the Monterey County Water Resources Agency. Monterey County Water Resources has reviewed the project and recommends the stormwater detention facilities be designed to maintain pre-development runoff for up to the 10-year storm event. It is recommended that stormwater runoffs in exceedance of the 10-year storm event be conveyed through the stormwater drainage system. Mitigation is included to ensure that on-site improvements or other methods for stormwater detention would maintain post-development, off-site peak flows for up to a 10-year storm event, in accordance with Policy S-3.1. . In order to minimize potential impacts resulting from stormwater discharge rates, and consistent with the 2010 General Plan, mitigation is included to require the development of a final, design-level drainage analysis that would include a detailed evaluation of the potential drainage impacts associated with the project, including identification of measures to reduce runoff by promoting infiltration.

Mitigation Measures

The following Mitigation Measures are required to ensure that adequate prevention and response is implemented for the accidental release of hazardous materials, that the amount and rate of on- and off-site stormwater runoff would be reduced to the maximum extent feasible, and that stormwater runoff during construction and operation of the proposed project would be treated prior to discharge off-site to ensure that contaminated runoff does not enter the local stormwater drainage system or nearby waterbodies.

H-1(a) Accidental Spill Control and Environmental Training

The applicant shall prepare a Spill Response Plan and Spill Prevision, Control and Countermeasure Plan. The Spill Response Plan (SRP) in combination with the Spill Prevention, Control and Countermeasure (SPCC) Plan to be prepared for the proposed project shall include procedures for quick and safe clean-up of accidental spills. The SRP and/or SPCC shall prescribe hazardous materials handling procedures for reducing the potential for a spill during construction, and shall include an emergency response program to ensure quick and safe clean-up of accidental spills. Additionally, an environmental training program shall be established to communicate environmental concerns and appropriate work practices, including spill prevention and response measures to all field personnel. Monitoring Action: Prior to the issuance of a grading permit, the applicant shall submit a Spill Response Plan and Spill Prevention, Control and Countermeasure Plan to the Director of the Environmental Health Bureau for review and approval. A monitoring program shall be implemented to ensure that the plans are followed during all construction activities.

H-1(b) Maintain Vehicles and Equipment

All vehicles and equipment, including all hydraulic hoses, shall be maintained in good working order to minimize leaks that could escape the vehicle or contact the ground. A vehicle and equipment maintenance log shall be updated and provided by the applicant to the County of Monterey RMA – Planning Department on a monthly basis for the duration of project construction.

H-1(c) Design-level Drainage Analysis and Minimization of Runoff

A design-level drainage analysis shall be prepared by a qualified engineer on behalf of the applicant prior to issuance of a grading permit that shall identify existing drainage patterns across the project site and existing off-site stormwater discharge locations. The drainage analysis shall quantify the existing and predicted post-construction peak runoff rates and amounts both on-site and off-site immediately downgradient of the project site. The drainage analysis shall identify any changes to the location of down-gradient discharge of stormwater runoff and any potential impacts on off-site property that would result from those changes. Stormwater control measures shall be developed to maximize on-site infiltration of stormwater and minimize off-site stormwater discharge. These stormwater control measures shall be designed to achieve conformance with Monterey County General Plan Safety Element Policy S-3.1 such that post-development, off-site peak flow discharge from the project site would not be greater than pre-development peak flow discharge up to the 10-year storm event. The stormwater control measures may include, as necessary, additional or expanded above-ground retention basins, stormwater collection tanks, subsurface infiltration devices such as cisterns with permeable bottoms or perforated pipes, permeable pavement, and vegetated swales. The stormwater control measures required by this mitigation may be used, in whole or in part, to satisfy the erosion and runoff control standards of other NPDES permits and the Monterey County Code.

Monitoring Action: The design-level drainage analysis shall be submitted to and approved by Monterey County RMA – Public Works, Monterey County RMA – Environmental Services, and Monterey County Water Resources Agency prior to issuance of a grading permit. The identified stormwater control measures shall be installed when appropriate during the construction process, including during grading, initial site preparation, excavation, and construction as necessary to control stormwater runoff. The installation of sufficient stormwater control measures to achieve conformance with the Monterey County General Plan Safety Element Policy S-3.1 threshold of post-

development peak flow discharge less than or equal to pre-development peak flow discharge shall be demonstrated to the County prior to issuance of occupancy permits.

H-1(d) Stormwater Control Plan, Operation and Maintenance Plan, and Maintenance Agreements

Prior to issuance of occupancy permits, the applicant shall submit a Stormwater Control Plan, prepared by a registered professional engineer, addressing the Post-Construction Stormwater Management Requirements (PCRs) for Development Projects in the Central Coast Region. The plan shall include the location of the drainage facilities and construction details. A report with supporting calculations shall also be provided. The Stormwater Control Plan shall be reviewed by a licensed Geotechnical Engineer to ensure conformance with the *Preliminary Geotechnical Investigation* (PCE 2017) or Engineering Geology Report. Prior to issuance of occupancy permits, the applicant shall submit an Operation and Maintenance Plan to RMA Environmental Services for review and approval. The plan shall be prepared by a registered Professional Engineer and include, at a minimum, the following:

- A site map identifying all structural Stormwater Control Measures requiring O&M practices to function as designed
- O&M procedures for each structural Stormwater Control Measure including, but not limited to, LID facilities, retention/detention basins, and proprietorship devices, and
- The O&M plan shall include short- and long-term maintenance requirements, recommended frequency of maintenance, and estimated cost for maintenance.

MONITORING ACTION

Prior to issuance of occupancy permits, the applicant shall enter into a Maintenance Agreement with Monterey County. The applicant shall submit a signed and notarized Maintenance Agreement to RMA Environmental Services for review and approval prior to filing against the property deed with the County Recorder. The agreement shall clearly identify the responsible party for ongoing maintenance of structural Stormwater Control Measures. The Agreement shall contain provisions for an annual report to be prepared by a registered Professional Engineer. The annual report shall be submitted to RMA Environmental Services, for review and approval, no later than August 15th. All recommended maintenance shall be completed by October 15th of that same year. If maintenance is required, certification shall be provided that all recommended maintenance has been completed before the start of the rainy season.

Significance After Mitigation

Implementation of the above Mitigation Measures would reduce potential impacts to a less than significant level.

Threshold 2:	Would the project 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?

Impact H-2 CHANGES IN ON-SITE INFILTRATION CAPACITY WOULD NOT RESULT IN A NET DEFICIT IN AQUIFER VOLUME OR A LOWERING OF THE LOCAL GROUNDWATER TABLE LEVEL. IMPACTS WOULD BE SIGNIFICANT BUT MITIGABLE.

Implementation of the proposed project would involve the development of four commercial retail buildings and associated parking areas and landscaping on a currently unpaved and undeveloped 3.8-acre lot. Although two groundwater wells currently exist on the project site, the proposed project would not include the use of groundwater resources and the two on-site wells would be abandoned prior to construction of the proposed project. Construction of the proposed project would convert a majority of the generally permeable, unpaved 3.8-acre project site to impervious surface, including building rooftops and parking areas. The proposed project would include stormwater control measures, such as stormwater detention swales, to reduce the rate and amount of runoff and to promote infiltration of stormwater. The proposed project would also include rainwater harvesting to provide a supplemental source of landscape irrigation water. A portion of this harvested rainwater may infiltrate into the alluvial aquifer during irrigation of the landscaping, depending on the antecedent soil moisture, the water landscaping water demands, and the amount of irrigation water that is applied. Mitigation Measures H-1(c) and H-1(d), described above under Impact H-1, would ensure that post-development, off-site peak flow drainage from the project site would not be greater than pre-development peak flow drainage. The stormwater control measures required by those Mitigation Measures would also maximize on-site infiltration such that construction of the proposed project would not substantially interfere with groundwater recharge. Water supply and sources of water to serve the proposed development are discussed in more detail under Impact H-5 below. As proposed, the project would be served by Cal-Am water and would utilize off-sets in existing groundwater demands. With appropriate entitlements and off-sets in place, 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 due to increased withdrawals.

Mitigation Measures

Implementation of Mitigation Measures H-1(c) and H-1(d) would ensure that the amount of on- and off-site stormwater runoff would be reduced to the maximum extent feasible and that the post-development peak discharge rate would not exceed the pre-development peak discharge rate. The stormwater control measures required by these Mitigation Measures would also ensure that infiltration is maximized such that changes in on-site infiltration would not result in a lowering of local groundwater levels or substantially interfere with groundwater recharge.

Significance After Mitigation

Implementation of Mitigation Measures H-1(c) and H-1(d) would reduce potential impacts to a less than significant level.

Threshold 3:	Would the project 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?
Threshold 4:	Would the project 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?
Threshold 5:	Would the project 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?
Threshold 6:	Would the project 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?

Impact H-3 CONSTRUCTION AND OPERATION OF THE PROPOSED PROJECT WOULD ALTER THE ON-SITE TOPOGRAPHY AND DRAINAGE PATTERNS AND INCREASE THE AMOUNT OF ON-SITE IMPERVIOUS SURFACE, WHICH COULD INCREASE THE RATE AND AMOUNT OF ON- AND OFF-SITE RUNOFF AND RESULT IN EROSION, FLOODING, AND THE NEED FOR EXPANDED STORMWATER DRAINAGE FACILITIES. THIS IMPACT WOULD BE SIGNIFICANT BUT MITIGABLE.

The proposed project would alter the existing drainage pattern of the site through the introduction of impervious surfaces and project infrastructure. The introduction of impervious surfaces and other project features, such as parking lots, rooftops, driveways, and walkways, could increase the rate and/or amount of surface runoff. The rate and amount of surface runoff is determined by multiple factors, including the following: amount and intensity of precipitation; amount of other imported water that enters a watershed; and amount of precipitation and imported water that infiltrates to the groundwater. Infiltration is determined by several factors, including soil type, antecedent soil moisture, rainfall intensity, the amount of impervious surfaces within a watershed, and topography. The rate of surface runoff is largely determined by topography and the intensity of rainfall over a given period of time.

The proposed project would not alter precipitation amounts or intensities. Project landscaping would be irrigated with a combination of potable water supplied by CalAm and harvested rainwater. As described in Section 2.5, Project Characteristics, the proposed project would utilize native and drought tolerant landscaping that would be irrigated through a water efficient, subsurface irrigation system to minimize landscaping water demand. This subsurface irrigation system would reduce the potential for irrigation activities to result in additional runoff leaving the project site. However, construction would include earth-disturbing activities which may affect site-specific infiltration and permeability during construction (temporary) and during operation (permanent). Temporary changes to on-site permeability would be minimal and limited to covered stockpiles, impermeable surfaces of construction staging areas, and temporarily compacted soils. Permanent impervious areas that would be introduced by the proposed project include impervious parking areas, rooftops, driveways, and walkways. In addition, site preparation would likely result in long-term changes to the infiltration capacity of permeable surfaces due to soil compaction.

In addition to increasing the amount of total annual runoff, the introduction of impervious surfaces would increase the rate of peak runoff leaving the project site. Increases in the amount and rate of runoff could result in increased erosion and sediment transport off-site. The potential erosion and

sedimentation impacts of increased runoff are discussed above under Impact H-1. The magnitude of change in peak runoff that would result from implementation of the proposed project is unknown at this time. Mitigation Measure H-1(c), which would require completion of a design-level drainage analysis prior to commencement of construction activities, would result in the quantification of the change in the peak runoff rate and the development and implementation of measures to reduce post-development peak runoff both on- and off-site such that it would not exceed the pre-development peak discharge rate.

Along with changes to the amount and rate of on- and off-site runoff, construction and operation of the proposed project would result in changes to drainage patterns across the project site and discharge locations for off-site runoff. Grading of the project site would alter on-site topography, which would alter on-site drainage patterns. The presence of parking areas and commercial retail structures would redirect runoff across the project site. Currently, on-site runoff occurs as sheet flow generally towards the south. Development of the proposed project would include installation of new on-site storm drains to intercept stormwater upslope of the project site and route that stormwater to the existing regional stormwater drainage system. Some on-site runoff would be intercepted and detained in biofiltration swales. As required by Mitigation Measure H-1(c), as described above, stormwater control measures would be implemented such that the rate of post-development peak discharge of stormwater would not exceed the pre-development peak discharge rate. Therefore, no expansion of the regional stormwater drainage system would be required with construction of the proposed project. The proposed project would also include stormwater detention swales that would reduce post-development peak runoff rates and filter suspended sediment and other pollutants in the stormwater runoff.

Compliance with existing regulations and implementation of required Mitigation Measures would ensure that development carried out under the proposed project would maximize on-site infiltration and minimize off-site runoff, and would not result in the discharge of stormwater that would result in off-site erosion or flooding or exceed the stormwater conveyance capacity of existing or planned stormwater drainage systems.

Mitigation Measures

Mitigation Measures H-1(c) and H-1(d) would ensure that the amount and rate of on- and off-site stormwater runoff would be reduced to the maximum extent feasible. No additional mitigation is required.

Significance After Mitigation

Implementation of Mitigation Measures H-1(c) and H-1(d) would reduce potential impacts to a less than significant level.

Threshold 9:	Would the project place structures within a 100-year flood hazard area which would impede or redirect flood flows?
Threshold 10:	Would the project 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?

Impact H-4 CONSTRUCTION AND OPERATION OF THE PROPOSED PROJECT COULD RESULT IN THE IMPEDANCE OR REDIRECTION OF FLOOD FLOWS AND THE EXPOSURE OF PEOPLE AND STRUCTURES TO A SIGNIFICANT RISK OF LOSS, INJURY, OR DEATH INVOLVING FLOODING. HOWEVER, COMPLIANCE WITH EXISTING REGULATIONS, INCLUDING THE REQUIREMENT TO ELEVATE THE PROJECT SITE ABOVE THE FEMA 100-YEAR FLOOD ELEVATION WOULD REDUCE IMPACTS TO A LESS THAN SIGNIFICANT LEVEL.

As described in the CSA-50 Final Report (Balance Hydrologics 2014), the site is exposed to flood risks from two distinct flooding sources: overbank flows from the Carmel River and overland flows from the Hatton Canyon drainage known as DA-29A. The entire project site is located within a Special Flood Hazard Area (100-year floodplain) mapped by FEMA and analyzed in the CSA-50 Report. The primary source of this flood hazard is overbank flows from the main stem of the Carmel River due to channel overtopping. The CSA-50 Report also shows that backwater flooding through the DA-29A trunk storm drain line can contribute to flooding at the project site (Balance Hydrologics 2014).

Although the proposed project does not include housing, employees and customers of the new retail development could be exposed to a risk of loss, injury, or death during a flood event. Also, the proposed new structures could impede or redirect flood flows and consequently exacerbate existing flood hazards either on- or off-site.

To demonstrate that the project would not adversely impede or redirect flood flows, a *Hydraulic Analysis* was prepared for the project by Balance Hydrologics, Inc. dated June 1, 2018 (Attached in Appendix H). This hydraulic analysis is a requirement for new development located in a FEMA Zone AE without floodway defined. The project proposes to elevate the site above the 100-year FEMA base flood elevation to an elevation of 32 feet NAVD88. The placement of fill would ensure that the site is reasonably protected from flooding and that potential flood hazards would be reduced. When placing fill, the effect of the fill must be quantified, and per MCC 16.16.050.J.1 “until a regulatory floodway is adopted, no new construction, substantial development, or other development, (including fill) shall be permitted with Zones AE, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other development, will not increase the water surface elevation of the base flood elevation more than one foot at any point.” The *Hydraulic Analysis* (Balance Hydrologics 2018) prepared for the project demonstrates the project would result in a maximum of a +0.04 change in the base flood elevation, as shown in Table 22.

Table 22 Difference in Base Flood Elevation between the Effective and Post-Fill Model in the North Overbank

Mode Cross-Section	Effective Base Flood Elevation (ft, NAVD 88)	Post-Fill Base Flood Elevation (ft, NAVD 88)	Change (ft)
6708	37.62	37.62	0.00
6636	37.10	37.10	0.00
6557	35.06	35.06	0.00
6208	34.97	34.97	0.00
5826	34.79	34.79	0.00
5470	34.01	34.01	0.00
5275	32.75	32.75	0.00
4966	28.47	28.51	+0.04
4796	28.35	28.36	+0.01
4631	28.21	28.21	0.00
4458	28.16	28.16	0.00
4362	28.15	28.15	0.00
4243	28.14	28.14	0.00

Source: County of Monterey

As demonstrated in the hydraulic analysis, the project would not substantially impede or redirect flood flows. This is, in part, due to the wide floodplain that spans the entire north overbank portion of the Carmel River floodplain. The wide floodplain, as shown in the cross-sections detailed in the *Hydraulic Analysis* (Balance Hydrologics, 2018), has sufficient flow area to distribute the effect of the proposed fill without resulting in impeded or redirect flood flows.

Prior to construction of the project, the applicant would be required to prepare and submit to FEMA a Conditional Letter of Map Revision Based on Fill (CLOMR-F). Through this regulatory review, the applicant would be required to formally remove the project site from the FEMA 100-year floodplain through the placement of fill in that area. To do so, the applicant would be required to prepare and submit to FEMA prior to commencement of construction activities a Conditional Letter of Map Revision Based on Fill (CLOMR-F). FEMA would then review the CLOMR-F and determine based on final site design plans whether or not the proposed development would be eligible to be removed from the Special Flood Hazard Area. If FEMA accepts the CLOMR-F, then following construction the applicant would need to demonstrate that the proposed project "as-built" matches the submitted final site designs that were used to support the CLOMR-F. After FEMA determines that the project "as-built" matches the previously submitted final site design plans, the agency would issue a Letter of Map Revision Based on Fill (LOMR-F) to remove the project site from the Special Flood Hazard Area.

Compliance with existing regulations regarding floodplain development and post-development off-site runoff, including Monterey County Code Chapter 16.16, Flood Control and Floodplain Management requirements for development within a floodplain, would reduce potential adverse effects related to flooding to a less than significant level.

Threshold 12: Would the project have sufficient water supplies to serve the project from existing entitlements and resources, or are new or expanded entitlements are needed?

Impact H-5 **THE PROJECT'S WATER DEMAND COULD BE MET WITH A COMBINATION OF WATER CREDITS AND WATER PURCHASE. AS A PRECONDITION TO OBTAINING A BUILDING PERMIT FROM THE COUNTY, THE APPLICANT WOULD BE REQUIRED TO OBTAIN A WATER PERMIT FROM THE MONTEREY PENINSULA WATER MANAGEMENT DISTRICT THAT WOULD EVALUATE AND CERTIFY THAT SUFFICIENT WATER SUPPLIES ARE AVAILABLE TO SERVE THE PROJECT FROM EXISTING ENTITLEMENTS AND RESOURCES. AS SUCH, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

Based on projected uses, the applicant estimates that the project would require 4.49 acre feet of allocated water per year (AFY). Actual project water demand would depend on the ultimate configuration and types of businesses. For example, a supermarket would use approximately 0.00007 acre feet per square foot (AF/SF) while a coffee shop or bakery would use 0.0002 AF/SF; a sit-down restaurant would use 0.020 AF/seat (MPWMD 2015). While the gross leasable area would not exceed 42,310, the size of the grocer and the makeup of retail and professional services included in the remainder of the gross leasable area is currently unknown. If the project includes a relatively high proportion of sit-down restaurants, the water demand associated with the project would be substantially higher than estimated by the applicant.

Table 23 below provides a conservative estimate of project water demand based on MPWMD non-residential water use factors and assumptions. Actual water demand may be incrementally r lower, depending on the precise tenant mix at project occupancy. As shown in the table, water demand could potentially exceed the applicant's estimate of 4.49 AFY.

Table 23 Example Water Demand Estimate

Type of Use	Size (SF)[1]	Water Use Factor	Water Demand (AF)
Group I (family grocery, supermarket, retail, nail salon)	30,000	0.00007 AF/SF	2.10
Group II (bakery, coffee house, deli, ice cream shop, pizza, sandwich shop)	10,000	0.0002 AF/SF	2.00
Group II: restaurant (general/bar)	2,310	0.020 AF/seat[2]	3.08
Total	42,310		7.18

[1] The breakdown per building shown herein and on the site plan (Figure 4) is preliminary and subject to change. However, the gross leasable area would not exceed 42,310.

[2] Analysis assumes 15 SF per seat; as such a 2,310 restaurant could include up to 154 seats.

The applicant proposes to acquire water supply for the proposed project through three sources:

- A credit from adjacent property holdings of 1.519 AFY
- Additional water credits from renovations to the adjacent Carmel Mission Inn
- Purchase from the Malpaso Water Company

The project applicant, Carmel Properties Company, already has the 1.519 AFY credit from adjacent property holdings, which would be applied to the project site. A portion of the remaining water demand would be credited through water savings anticipated from renovations to the Carmel Mission Inn, which is also owned by Carmel Properties Company.

Additional water needed for the project, which could not be met from either existing or anticipated future water credits from adjacent properties, would be purchased from the Malpaso Water

Company. In July 2015, the Malpaso Water Company received approval to sell 80 AFY of water to commercial and residential users in Carmel and the Carmel Valley through the CalAm distribution system (MPWMD 2015). The applicant submitted a preliminary application to Malpaso Water Company for 2.50 AFY, but the Malpaso Water Company has not approved the application or confirmed its ability to provide the requested water as of the date of this analysis. Because of these uncertainties, the County has not been able to independently verify these identified water sources and cannot determine that they are sufficient to supply the proposed project. However, prior to issuance of a building permit by the County, the applicant would be required to obtain a Water Permit from MPWMD per Rule 23. Prior to issuance of the Water Permit, MPWMD's General Manager must ensure that the total quantity of water permitted for all projects, including the current application, within a Jurisdiction shall not exceed that Jurisdiction's total Allocation. The proposed project would be located within the Jurisdiction of Monterey County, as defined by MPWMD. If sufficient water supplies to serve the proposed project are not available from the Jurisdiction's Allocation, the Water Permit application must be denied and returned to the applicant to secure additional water resources.

Because the project applicant would be required to obtain an MPWMD Water Permit prior to issuance of a County building permit, and because the Water Permit process requires that water quantities requested stay within the identified allocation, the project could not be constructed without verification of adequate water supplies. As such, impacts related to water supply would be less than significant.

Mitigation Measures

No mitigation is required.

4.7 Noise

4.7.1 Summary

Table 24 summarizes the identified environmental impacts, proposed Mitigation Measures, and residual impacts of the proposed project with regard to noise. Additional detail is provided in Section 4.1.3 (Impact Analysis).

Table 24 Impact and Mitigation Summary: Noise

Impact	Mitigation Measures	Residual Impact
Impact N-1. Noise from project construction activities would generate high levels of noise that could adversely impact existing nearby hotel units and residences. Impacts would be significant but mitigable.	**N-1 Construction Noise Mitigation** The following Mitigation Measure shall be implemented and adhered to by the project applicant and their construction contractor(s) to reduce noise generated from project construction activities: ▪ **Construction Equipment.** Construction equipment shall be properly maintained and in good condition. All internal combustion engine driven machinery will use intake and exhaust mufflers and engine shrouds, as applicable. Equipment engine shrouds shall be closed during equipment operation. Whenever feasible, electrical power shall be used to run air compressors and similar power tools rather than diesel equipment. The developer shall require all contractors, as a condition of contract, to maintain and tune-up all construction equipment to minimize noise emissions. ▪ **Vehicle and Equipment Idling.** Construction vehicles and equipment shall not be left idling for longer than five minutes when not in use. ▪ **Stationary Equipment.** Stationary construction equipment that generates noise that exceeds 60 dBA Leq at the boundaries of the nearby residential uses shall be shielded. Temporary noise barriers used during construction activity shall be made of noise-resistant material sufficient to achieve a Sound Transmission Class (STC) rating of STC 40 or greater, based on sound transmission loss data taken according to ASTM Test Method E90. Such a barrier may provide as much as a 10 dB insertion loss, provided it is positioned as close as possible to the noise source or to the receptors. To be effective, the barrier must be long and tall enough (a minimum height of eight feet) to completely block the line-of-sight between the noise source and the receptors. The gaps between adjacent panels must be filled-in to avoid having noise penetrate directly through the barrier. The recommended minimum noise barrier or sound blanket requirements would reduce construction noise levels by at least 10 dB. The equipment area with appropriate acoustical shielding shall be designated on building and grading plans. Equipment and shielding shall remain in the designated location throughout construction	Implementation of Mitigation Measure N-1 would reduce impacts to a less than significant level.

Impact	Mitigation Measures	Residual Impact
	activities. ▪ **Disturbance Coordinator.** A noise disturbance coordinator shall be designated by the contractor. The noise disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The noise disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall require that reasonable measures warranted to correct the problem be implemented. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site. ▪ **Construction Activities:** Construction activities with the potential to generate noise shall only occur Monday through Saturday between the hours of 7:30 AM and 6 PM. **Monitoring Action:** Prior to issuance of grading permits, the project proponent shall submit building and grading plans that show the appropriate construction equipment noise reduction measures to the County of Monterey Planning Department. Compliance shall be monitored by County Building Inspectors.	
Impact N-2. Project construction would intermittently generate groundborne vibration on and adjacent to the site. This may affect receptors near the project site, but would not create excessive levels of vibration that could cause structural damage or disturb sleep at nearby sensitive receptors. Impacts would be less than significant.	As impacts would be less than significant, no mitigation is required. However, it should be noted that Mitigation Measure GEO-2 would require the minimization of construction-related vibration impacts of ground improvement techniques to be located no closer than 20-feet of any existing, adjacent structures or fuel tanks.	With the Implementation of Mitigation Measure GEO-2, impacts would be less than significant.
Impact N-3. Occupants of existing nearby sensitive receptors would not experience roadway noise level increases exceeding applicable thresholds as a result of project-generated traffic. Impacts would be less than significant.	No mitigation is required.	Impacts would be less than significant.
Impact N-4. Project operation would introduce new noise sources typical of proposed convenience market/grocery store and retail uses to the site. New noise sources would be similar to those of existing adjacent uses and would not result in a noise environment incompatible with existing uses. Impacts would be less than significant..	No mitigation is required.	Impacts would be less than significant.

4.7.2 Setting

a. Overview of Noise

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

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

Noise levels typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from point sources, such as industrial machinery. Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dBA per doubling of distance. Noise from heavily traveled roads typically attenuates at about 3 dBA per doubling of distance. Noise levels may also be reduced by intervening structures; generally, a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed (approximately 30 years old or older) 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 residential units and office buildings is generally 30 dBA or more (FTA, 2006).

Land forms and man-made structures have complex effects on sound transmission and on noise contours. Generally, barriers between a source and receiver absorb or reflect noise resulting in a quieter environment. Where barriers or land forms do not interrupt the noise transmission path from source to receiver, noise contours, such as those provided in the County's General Plan, prove to be good estimates of the average noise level from roadway traffic. In areas where barriers or land forms interrupt the sound transmission, the noise contours overestimate the extent to which a source intrudes into the community. The Monterey County General Plan noise contour distances, as shown in Figure 10C in the General Plan, depict worst-case conditions because they do not account for any obstructions to the noise path, such as walls, berms, or buildings.

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

The time period in which noise occurs is also important since noise that occurs at night tends to be more disturbing than that which occurs during the day. Community noise is usually measured using Day-Night Average Level (Ldn), which is the 24-hour average noise level with a 10-dBA penalty for noise occurring during nighttime (10 PM to 7 AM) hours, or Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a 5 dBA penalty for noise occurring from 7 PM to 10 PM and a 10 dBA penalty for noise occurring from 10 PM to 7 AM Noise levels described by Ldn and CNEL usually do not differ by more than 1 dB.

The relationship between peak hourly Leq values and associated Ldn values depends on the distribution of traffic over the entire day. There is no precise way to convert a peak hourly Leq to Ldn. However, in urban areas near heavy traffic, the peak hourly Leq is typically 2-4 dBA lower than the daily Ldn. In less heavily developed areas, such as suburban areas, the peak hourly Leq is often roughly equal to the daily Ldn. For rural areas with little nighttime traffic, the peak hourly Leq will often be 3-4 dBA greater than the daily Ldn value (California State Water Resources Control Board [CSWRCB] 1999). The project site is located in a suburban area; therefore, the peak hourly Leq at the project site is approximately equivalent to the daily Ldn value.

b. Fundamentals of Groundborne Vibration

Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. Excessive vibration can be a serious source of human disturbance and can also result in physical damage to buildings. Groundborne vibration related to human annoyance is generally measured as root mean square (RMS) velocity levels expressed in vibration decibels (VdB); construction-related groundborne vibration in relation to its potential for building damage can also be measured in inches per second (in/sec) peak particle velocity (PPV) (Federal Transit Administration 2006). As with noise, distance attenuates groundborne vibration. Vibration levels decrease by about 6 VdB with every doubling of distance (FTA 2006).

The background vibration velocity level in residential and educational areas is usually around 50 VdB. (FTA 2006). The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible.

c. Sensitive Receptors

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with each of these uses. The County of Monterey 2010 General Plan Noise Element, which is contained in the General Plan Safety Element, identifies normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable noise levels for a variety of land use and development types based on the Office of Planning and Research (OPR) General Plan Guidelines. The most noise sensitive land uses include residences, hotels, schools, libraries, churches, hospitals, and nursing homes. The nearest sensitive receptors to the site are mixed-use (offices/residences) buildings located approximately 30 feet east of the project boundary, and the lodging use/inn, located directly northwest of the site, behind the Chevron gas station. The inn's parking lot provides an approximately 60-foot buffer between the project site's eastern boundary

and the motel units. The motel's pool area is flanked by motel buildings to the north and east, which effectively block the line of site from the project site to the pool area.

d. Existing Noise Levels

The project would be built and operated on an approximately 3.8-acre parcel in a developed area near the mouth of Carmel Valley. The project site is adjacent to a Chevron gas station, an existing lodging use/inn, the Crossroads Shopping Center, and professional offices and mixed (office/residential) uses. The site and adjacent area is generally flat without landforms that would impede noise from surrounding uses from reaching the site. The primary source of noise on the project site and in the surrounding area is traffic on Rio Road, which is located immediately adjacent and south of the project site. The secondary source of noise is traffic on Highway 1, which is approximately 375 feet northwest of the project site at its closest to the project site.

Other major roadways near the site include Carmel Valley Road, located approximately 1,000 feet to the north, and Carmel Rancho Boulevard, located approximately 850 feet to the east. Motor vehicle noise can be of concern because it is characterized by a high number of individual events, which often create a sustained noise level.

The County of Monterey 2010 General Plan Noise Element includes existing and projected noise contours associated with airports, stationary sources, and roadway sources, which provide a visualization of sound level estimates. The project site is not within any identified noise contour in the 2010 General Plan for Highway 1, Carmel Valley Road, Carmel Rancho Boulevard, or Rio Road. To characterize existing noise levels at the project site and in the vicinity, four 15-minute noise measurements were taken during the weekday afternoon peak hour on September 5, 2017 using an ANSI Type II Integrating sound level meter.

Table 25 summarizes the results of the noise measurements. Existing noise levels range from approximately 51 dBA Leq to 64 dBA Leq; see Figure 23 for a map of the noise measurement locations and Appendix I for the noise meter data.

Table 25 Sound Level Measurement Results (dBA Leq)

Measurement Location	Primary Noise Source	Sample Time	Measured Noise Level (dBA Leq)
Location 1: Northwest corner of project site, adjacent to the existing inn	Roadway traffic along Rio Road	4:05-4:20 PM	54
Location 2: Southeast corner of project site	Roadway traffic along Rio Road	4:28-4:43 PM	60
Location 3: Fire Station	Roadway traffic along Rio Road	4:55-5:10 PM	51
Location 4: North side of Rio Road, near Birch Place (west of the project site)	Roadway traffic along Rio Road	5:26-5:41 PM	64

See Appendix I for sound level measurement locations and data sheets.

Source: Field visit conducted by Rincon Consultants, Inc. on September 5, 2017 using ANSI Type II Integrating sound level meter

Figure 23 Noise Measurement Locations

4.7.3 Regulatory Setting

State

California Government Code §65302

California Government Code §65302 encourages each local government entity to implement a noise element as part of its general plan. The Governor's Office of Planning and Research (OPR) has developed guidelines for preparing noise elements, which include recommendations for evaluating the compatibility of various land uses as a function of community noise exposure. In addition, Title 24 of the California Health and Safety Code establishes an interior noise standard of 45 dBA for habitable dwelling units, excluding single family homes.

Local

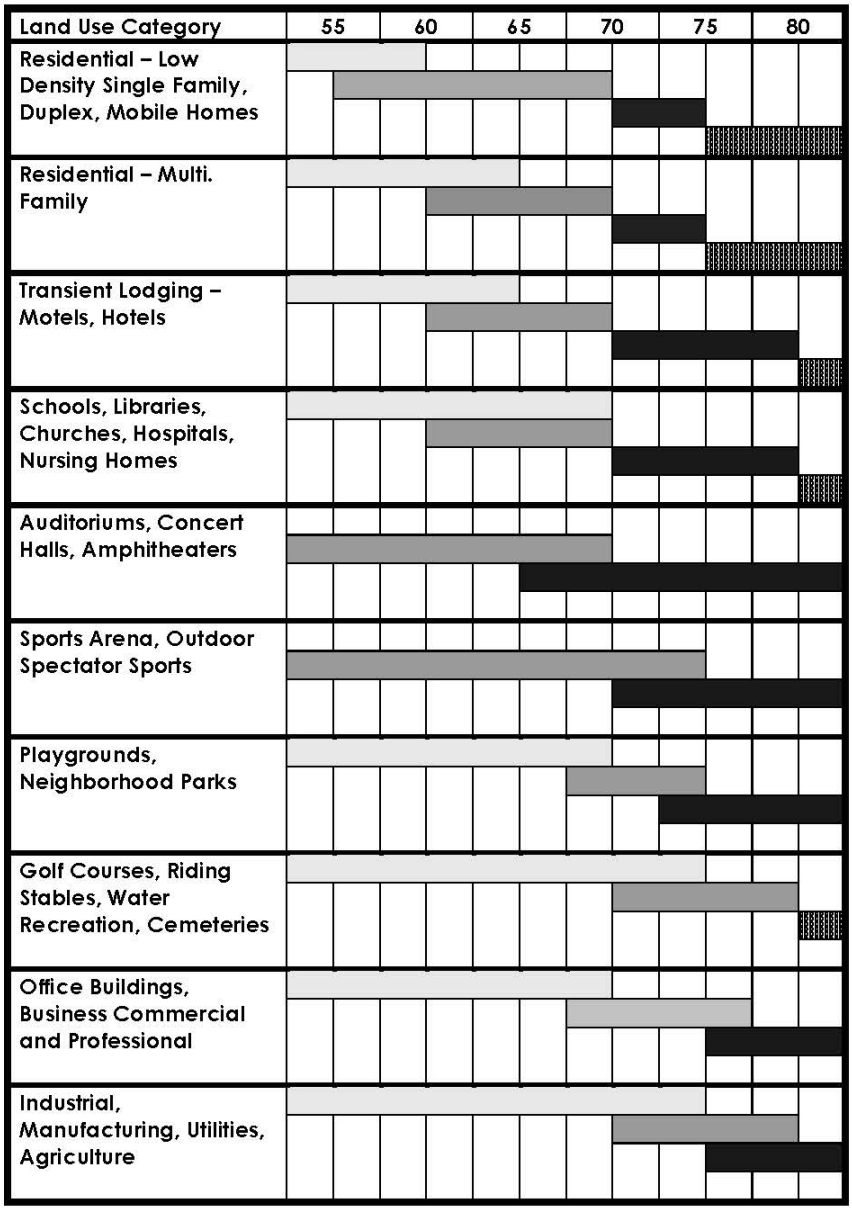
Monterey County General Plan

The County of Monterey 2010 General Plan incorporates policies regulating noise in its Safety Element. There, it identifies normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable noise levels for a variety of land use and development types, based on OPR General Plan Guidelines. Figure 24 shows the County of Monterey community noise exposure levels.

The County of Monterey 2010 General Plan Safety Element also includes policies that are designed to meet General Plan Goal S-7, to "maintain a healthy and quiet environment free from annoying and harmful sounds." These policies address requirements for new noise-sensitive land uses, development in areas that may be exposed to high levels of noise, construction of new noise-generating uses, procedures for acoustical analysis and environmental review, regulations for construction activity and the use of heavy construction equipment, and standard noise protection measures for new construction. Applicable policies include the following:

1. S-7.2 Proposed development shall incorporate design elements necessary to minimize noise impacts on surrounding land uses and to reduce noise in indoor spaces to an acceptable level.
2. S-7.3 Development may occur in areas identified as "normally unacceptable" provided effective measures to reduce both the indoor and outdoor noise levels to acceptable levels are taken.
3. S-7.4 New noise generators may be allowed in areas where projected noise levels (Figure 10) are "conditionally acceptable" only after a detailed analysis of the noise reduction requirements is made and needed noise mitigation features are included in project design.
4. S-7.5 New noise generators shall be discouraged in areas identified as "normally unacceptable." Where such new noise generators are permitted, mitigation to reduce both the indoor and outdoor noise levels will be required.
5. S-7.8 All discretionary projects that propose to use heavy construction equipment that has the potential to create vibrations that could cause structural damage to adjacent structures within 100 feet shall be required to submit a pre-construction vibration study prior to the approval of a building permit. Projects shall be required to incorporate specified measures and monitoring identified to reduce impacts. Pile driving or blasting are illustrative of the type of equipment that could be subject to this policy.

Figure 24 Monterey County Community Noise Exposure Guidelines (Ldn or CNEL)



INTERPRETATION:

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

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

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

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

6. S-7.9 No construction activities pursuant to a County permit that exceed "acceptable" levels listed in Policy S-7.1 shall be allowed within 500 feet of a noise sensitive land use during the evening hours of Monday through Saturday, or anytime on Sunday or holidays, prior to completion of a noise mitigation study. Noise protection measures, in the event of any identified impact, may include but not be limited to:
   a. Constructing temporary barriers, or
   b. Using quieter equipment than normal.
7. S-7.10 Construction projects shall include the following standard noise protection measures:
   a. Construction shall occur only during times allowed by ordinance/code unless such limits are waived for public convenience
   b. All equipment shall have properly operating mufflers; and
   c. Lay-down yards and semi-stationary equipment such as pumps or generators shall be located as far from noise-sensitive land uses as practical.

Monterey County Code, Chapter 10.60 Noise Control

The Monterey County Code, Chapter 10.60 – Noise Control, also regulates noise. Section 10.60.010 states, "This Board finds that noises generated so as to be in excess of the levels permitted in this Chapter impair hearing, impede convalescence, hinder concentrated mental effort, interfere with relaxation and sleep, depreciate property values, and cause stress and nervous tension and consequent irritability, insomnia, accident proneness, and increased risk for cardiovascular disease and hypertension." Section 10.60.030 prohibits operating anything that exceeds a noise level of 85 dBA as measured 50 feet therefrom unless it is operated at least 2,500 feet from occupied residential dwelling units. Section 10.60.040 restricts nighttime (10 PM to 7 AM) exterior noise levels to a maximum hourly equivalent sound level (Leq) of 45 dBA or peak sound level of 65 dBA.

4.7.4 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

The analysis of noise impacts considers the effects of temporary construction-related noise, including demolition of the existing on-site shed and construction activities, and operational noise associated with long-term project-related activities, including project-generated traffic as well as stationary source noise.

Construction

NOISE

Construction noise was estimated using the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM) software. The RCNM uses baseline noise levels, distances to noise-sensitive receptors, shielding information, and anticipated construction equipment to calculate the level of construction noise from each piece of construction equipment and overall construction noise at each receptor. To calculate noise generated by each piece of equipment, the model uses reference equipment noise levels from a study done by the EPA and acoustical usage

factors for equipment (i.e., the fraction of time each equipment is operating at full power) from the Empire State Electric Energy Research Corp. Guide (FHWA 2006).

To determine noise from construction of the project, noise was modeled for the sensitive receptors nearest to the project construction site, located approximately 30 feet to the east of the project boundary (mixed-use with residences) and 60 feet west of the project boundary (existing inn/lodging use). This analysis assumed that, on average, construction activities would take place at least 50 feet internal to the project boundary because construction equipment would not remain stationary and located at the project boundary throughout project construction, but would be used throughout the 3.8-acre site. As such, the modeled distance to the nearest noise-sensitive receptors was 80 and 110 feet, respectively. Measured noise at Location 2 (60.1 Leq) was used as the baseline noise level for the residential receptor, and measured noise at Location 1 (53.8 Leq) was used as the baseline noise level for the inn. Noise was modeled for site preparation, grading, building construction, and paving phases. The project would not involve substantial demolition, as the only existing structure is a shed. Architectural coating phase was not modeled because it would involve operation of only air compressors, which would generate noise levels less than the equipment required for other phases, such as backhoes and scrapers during the grading phase (FHWA 2006). The equipment list for each construction phases was taken from CalEEMod outputs (see Section 4.2, *Air Quality*). Construction equipment is listed in the winter and summer CalEEMod results (Appendix B) under Section 3.0, Construction Detail. RCNM inputs and results are provided in Appendix I.

Pursuant to Mitigation Measure GEO-2a, as described in Section 4.5, *Geology and Soils*, site preparation may include vibro replacement stone column techniques to reduce liquefaction potential. These techniques are typically performed with a vibrating column suspended from a crane. The noise levels that would be generated from operation of a crane would be consistent with other heavy construction equipment modeled in this analysis, such as a backhoe or grader. Therefore, this noise analysis accounts for the noise that could also be generated from vibro replacement stone column techniques.

VIBRATION

Vibration impacts were analyzed by modeling vibration levels caused by the highest-impact equipment anticipated to be used during project construction at the nearest residential receptor. Vibration levels were calculated using methodology provided in the FTA's *Transit Noise and Vibration Assessment.* Vibration levels were determined using reference vibration levels for construction equipment at 25 feet (FTA 1995) and the distance from to the nearest sensitive receptor, assuming a 6-VdB attenuation per doubling of distance to the receptor. It was assumed that construction activity would occur on average at least 50 feet internal to the project boundary because construction equipment would not remain stationary and located at the project boundary throughout project construction, but would be used throughout the 3.8-acre site. As the nearest sensitive receptor is located approximately 30 feet from the project boundary, 80 feet was used as the modeling distance. See Appendix I for calculations of vibration impacts.

TRAFFIC

Roadway noise was modeled using the Housing & Urban Development Exchange Day/Night Noise Level Calculator (DNL Calculator) at two sensitive receptors along Rio Road: in front of the mixed-use building on the north side of Rio Road to the east of the project site, and in front of a single-family house located on the southwest corner of Rio Road and Highway 1. Appendix I includes a map of the modeled locations and DNL Calculator worksheets. These two sensitive receptors are

located along road segments expected to experience substantial project-generated traffic volumes and that currently experience higher volumes of traffic. Therefore, the sites are currently exposed to higher levels of roadway noise. Roadway noise was modeled for existing conditions, existing plus project conditions, cumulative conditions, and cumulative plus project conditions. Cumulative conditions include other projects for which an application or pre-application has been submitted to the applicable municipality in the area and are pending approval and projects that have been approved in the area but not yet constructed.

The DNL Calculator calculates the noise level at a particular location based on a site's distance from roadways, railways, and airports and specific features associated with each transportation noise source. For roadways, the key inputs are the Average Daily Trips (ADT) of nearby roadways, distance of the receptor to the centerline of the roadway, and average roadway speed; no railways or airports are located near the project site and were not included in modeling. ADT for nearby roadways were derived from weekday PM peak hour traffic volumes provided in the traffic study prepared for the project by Keith Higgins Traffic Engineer (KHTE) in December 2017 (KHTE 2017). In accordance with standard industry assumptions for traffic in this type of urban/suburban setting, it was assumed that PM peak hour traffic comprises 10 percent of ADT. It was also assumed that cars comprised 95 percent of ADT, medium duty trucks comprised three percent of ADT, and heavy duty trucks comprised two percent of ADT. Distances to roadways and roadway speed limits were determined using Google Earth.

Significance Thresholds

Pursuant to Appendix G of the *State CEQA Guidelines*, potentially significant impacts would occur if the project would result in any of the following conditions:

1. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
2. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
3. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
4. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels; and/or
6. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

The project site is not located within any airport noise impact contours and would therefore not expose residents or workers to excessive noise levels from airport or private air strip operations. The nearest airport is the Monterey Regional Airport, located approximately 4.25 miles northeast of the project site. Further discussion regarding thresholds 5 and 6 can be found in Section 4.9, *Effects Found Not to be Significant.*

Construction

NOISE

For construction noise, impacts are considered significant if they would conflict with applicable noise restrictions contained in the County's Municipal Code (MC) and General Plan policies:

- MC Section 10.60.030: Restricts operation of any machine, mechanism, device, or contrivance which produces a noise level of 85 dBA as measured 50 feet therefrom.
- MC Section 10.60.040: Prohibits activity that would cause exterior noise levels during nighttime hours (10 PM to 7 AM) to exceed an hourly equivalent sound level (Leq) of 45 dBA or peak sound level of 65 dBA.
- General Plan Policy S-7.9: No construction activities pursuant to a County permit that exceed "acceptable" levels listed in Figure 24 (i.e., Community Noise Exposure Guidelines) shall be allowed within 500 feet of a noise sensitive land use during the evening hours of Monday through Saturday, or anytime on Sunday or holidays, prior to completion of a noise mitigation study.

VIBRATION

The Federal Railroad Administration (FRA) provides the following thresholds for assessing groundborne vibration impacts:

- 65 VdB where low ambient vibration is essential for interior operations, such as hospitals and recording studios
- 72 VdB for residences and buildings where people normally sleep, including hotels
- 75 VdB for institutional land uses with primary daytime use, such as churches and schools
- 95 VdB for physical damage to extremely fragile historic buildings
- 100 VdB for physical damage to buildings

Project vibration impacts would be considered significant if they cause vibration levels exceeding 72 VdB at the adjacent inn and mixed-use buildings during evening hours, or exceed the threshold for physical damage to buildings.

Operation

For operational noise, impacts are considered significant if they would conflict with applicable noise restrictions contained in the Monterey County Code (MCC) and General Plan policies:

- MCC Section 10.60.030: Operation of any machine, mechanism, device, or contrivance which produces a noise level of 85 dBA as measured 50 feet therefrom.
- MCC Section 10.60.040: Causes exterior noise levels during nighttime hours (10 PM to 7 AM) to exceed an hourly equivalent sound level (Leq) of 45 dBA or peak sound level of 65 dBA.

Traffic

For traffic-related noise, impacts are considered significant if project-generated traffic would result in exposure of sensitive receptors to an unacceptable increase in noise levels. In the absence of County regulations for traffic-related noise sources, or standards for long-term increases in ambient noise above existing conditions, recommendations contained in the *Transit Noise and Vibration Impact Assessment* (FTA 2006) were used to determine whether increases in traffic noise would be

acceptable. With these standards, the allowable noise exposure increase is reduced with increasing ambient existing noise exposure, such that higher ambient noise levels have a lower allowable noise exposure increase. Table 26 shows the significance thresholds for increases in traffic-related noise levels caused by the project.

Table 26 Significance of Changes in Operational Roadway Noise Exposure

Existing Noise Exposure (dBA Ldn or Leq)	Allowable Noise Exposure Increase (dBA Ldn or Leq)
45-50	7
50-55	5
55-60	3
60-65	2
65-74	1
75+	0

Source: FTA 2006

b. Project Impacts and Mitigation Measures

Threshold 1:	Would the project in 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?
Threshold 4:	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

IMPACT N-1 NOISE FROM PROJECT CONSTRUCTION ACTIVITIES WOULD GENERATE HIGH LEVELS OF NOISE THAT COULD ADVERSELY IMPACT EXISTING NEARBY HOTEL UNITS AND RESIDENCES. IMPACTS WOULD BE SIGNIFICANT BUT MITIGABLE.

The main sources of noise during construction would be heavy machinery used in grading and clearing of the site, as well as equipment used during building construction and paving. Table 27 lists typical noise levels associated with construction equipment that would likely be used during project construction at a distance of 50 feet, as described by the FTA (2006). The table also shows the attenuated noise levels at the two nearest sensitive receptors. As described above, the modeled distance to these nearest noise-sensitive receptors was 80 and 110 feet, respectively, based on the assumption that, on average, construction activities would take place at least 50 feet internal to the project boundary.

Table 27 Typical Construction Equipment Noise Levels

Project Equipment	Typical Maximum Noise Level (dBA)		
	50 Feet from the Source	Mixed-Use Residences (80 Feet from the Source)	Lodging Use (110 Feet from the Source)
Air Compressor	81	77	74
Backhoe	80	76	73
Paver	89	85	82
Concrete Mixer	85	81	78
Dozer	85	81	78
Roller	74	70	67
Grader	85	81	78
Scraper	89	85	82
Truck	88	84	81

Source: Table 12-1 in FRA 2006.

Noise levels based on actual maximum measured noise levels at 50 feet (Lmax).

Noise levels assume a noise attenuation rate of 6 dBA per doubling of distance.

As shown in Table 27, several pieces of construction equipment generate noise levels in excess of 85 dBA at distances of 50 feet. As described above MMC Section 10.60.030 restricts operation of any machine, mechanism, device, or contrivance which produces a noise level of 85 dBA as measured 50 feet from the machine or device. However, as the table shows, at the nearest sensitive receptor, the mixed-use residential receptor, noise generated from each piece of equipment would attenuate below 85 dBA, with the exception of the paver and scraper. These would attenuate to 85 dBA at the receptor. However, construction would be temporary and short term, and the paver and scraper would not be used continuously throughout construction. Thus, the short-term exceedances of the noise standards established by MMC Section 10.60.030 would have less than significant impacts.

As described above, construction activities would cause a temporary increase in ambient noise levels in and around the project site. Construction typically occurs in several distinct phases, each of which has its own unique noise characteristics. To determine the project's noise impacts to nearby sensitive receptors during each phase of construction, noise was modeled at the nearest noise-sensitive receptors to the site using the RCNM, as described above. The modeled distance to these nearest noise-sensitive receptors was 80 and 110 feet, respectively, based on the assumption that, on average, construction activities would take place at least 50 feet internal to the project boundary.

Table 28 shows the combined noise levels from multiple active pieces of construction equipment during different construction phases in dBA Leq/ CNEL. As discussed under Section 4.13.1, *Setting*, Leq and CNEL are roughly interchangeable in a suburban environment. Project construction would generate noise levels as high as 82.4 dBA Leq/CNEL during construction at the nearest receptor, located 80 feet from construction activities. This would exceed the acceptable level of 65 dBA CNEL for multi-family residential and transient lodging uses established in the Community Noise Exposure Guidelines.

Table 28 Project Construction Noise

	Noise Levels (dBA Leq/ CNEL)	
	Mixed-Use Residences (80 Feet from Construction Activity)	Lodging Use (110 Feet from Construction Activity)
Site Preparation	80.9	78.2
Grading	80.8	78.0
Building Construction	82.4	79.6
Paving	81.9	79.6

See Appendix I for RCNM worksheets.

Consistent with General Plan Policy S-7.9, construction activities would not be conducted on Sundays or holidays, and would not be conducted during the evening hours on Monday through Saturday. This would prevent increased noise levels during construction from occurring during the hours when most people sleep or are most sensitive to noise. Nonetheless, exceedance of the Community Noise Exposure Guidelines, as stated above, would be potentially significant but mitigable.

Mitigation Measures

The following Mitigation Measure is required to reduce noise impacts resulting from project construction activities.

N-1 Construction Noise Mitigation

The following Mitigation Measure shall be implemented and adhered to by the project applicant and their construction contractor(s) to reduce noise generated from project construction activities:

- **Construction Equipment.** Construction equipment shall be properly maintained and in good condition. All internal combustion engine driven machinery will use intake and exhaust mufflers and engine shrouds, as applicable. Equipment engine shrouds shall be closed during equipment operation. Whenever feasible, electrical power shall be used to run air compressors and similar power tools rather than diesel equipment. The developer shall require all contractors, as a condition of contract, to maintain and tune-up all construction equipment to minimize noise emissions.
- **Vehicle and Equipment Idling.** Construction vehicles and equipment shall not be left idling for longer than five minutes when not in use.
- **Stationary Equipment.** Stationary construction equipment that generates noise that exceeds 60 dBA Leq at the boundaries of the nearby residential uses shall be shielded. Temporary noise barriers used during construction activity shall be made of noise-resistant material sufficient to achieve a Sound Transmission Class (STC) rating of STC 40 or greater, based on sound transmission loss data taken according to ASTM Test Method E90. Such a barrier may provide as much as a 10 dB insertion loss, provided it is positioned as close as possible to the noise source or to the receptors. To be effective, the barrier must be long and tall enough (a minimum height of eight feet) to completely block the line-of-sight between the noise source and the receptors. The gaps between adjacent panels must be filled-in to avoid having noise penetrate directly through the barrier. The recommended minimum noise barrier or sound blanket requirements would reduce construction noise levels by at least 10 dB.

The equipment area with appropriate acoustical shielding shall be designated on building and grading plans. Equipment and shielding shall remain in the designated location throughout construction activities.

- **Disturbance Coordinator.** A noise disturbance coordinator shall be designated by the contractor. The noise disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The noise disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall require that reasonable measures warranted to correct the problem be implemented. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.
- **Construction Activities.** Construction activities with the potential to generate noise shall only occur Monday through Saturday between the hours of 7:30 AM and 6PM.
- **Monitoring Action.** Prior to issuance of grading permits, the project proponent shall submit building and grading plans that show the appropriate construction equipment noise reduction measures to the County of Monterey Planning Department. Compliance shall be monitored by County Building Inspectors.

Significance After Mitigation

Mitigation Measure N-1 would ensure that noise mitigation is appropriately applied during construction to reduce impacts to nearby sensitive receptors. Therefore, implementation of mitigation would reduce construction noise impacts to a less than significant level.

Threshold 2:	Would the project result in an exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

IMPACT N-2 PROJECT CONSTRUCTION WOULD INTERMITTENTLY GENERATE GROUNDBORNE VIBRATION ON AND ADJACENT TO THE SITE. THIS MAY AFFECT RECEPTORS NEAR THE PROJECT SITE, BUT WOULD NOT CREATE EXCESSIVE LEVELS OF VIBRATION THAT COULD CAUSE STRUCTURAL DAMAGE OR DISTURB SLEEP AT NEARBY SENSITIVE RECEPTORS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Construction of the project could potentially increase groundborne vibration on the project site, but construction effects would be temporary, occurring for approximately nine months. Project construction would not involve pile driving, blasting, or similar types of construction techniques that create high levels of vibration.

The primary vibratory source during construction would be large bulldozers and loaded trucks. Table 29 identifies various vibration velocity levels for the types of construction equipment that would operate at the project site during construction. The table also shows the estimated vibration velocity levels at the nearest sensitive receptor, based on the vibration attenuation calculations provided by the FTA (2006). As described above, the nearest sensitive receptor to the project site are the mixed-used residences, which would be located approximately 80 feet from construction activities, based on the assumption that construction activities would occur on average 50 feet internal from the site boundary. The next closest sensitive receptor is the lodging facility, which is located approximately 30 feet farther from the construction activities than the mixed used residences receptor, which would result in further reduction of the vibration levels shown in Table 29.

Table 29 Vibration Levels for Construction Equipment

Equipment	Vibration Decibels (VdB)	
	50 feet from Equipment*	Mixed-Used Residences 80 feet from Equipment
Hoe Ram	78	72
Large Bulldozer	78	72
Loaded Trucks	77	70
Jackhammer	70	64
Small Bulldozer	48	42

*Source: FTA 2006

As shown in Table 29, vibration levels from project construction at the nearest sensitive receptor would not exceed the FRA recommended 72 VdB threshold for residences and buildings where people normally sleep. Vibration also would not exceed 95 VdB, the vibration level which would damage extremely fragile historic buildings at either sensitive receptor. In addition, in compliance with County General Plan Policy S-7.9, construction equipment would operate only during daytime hours, and thus would not generate vibration during the nighttime, when most people are typically sleeping.

Pursuant to Mitigation Measure GEO-2a, as described in Section 4.5, *Geology and Soils*, site preparation may include vibro replacement stone column techniques to reduce liquefaction potential. These techniques are typically performed with a vibrating column suspended from a crane. Vibro replacement stone column techniques would be conducted during daytime hours. Pursuant with Mitigation Measure GEO-2a, vibro replacement stone column techniques would not be performed within 20 feet of existing structures to avoid structural damage. Thus, vibration impacts resulting from construction of the proposed project, including vibro replacement stone column techniques would be less than significant.

Mitigation Measures

As impacts would be less than significant, no mitigation is required. Mitigation Measure GEO-2 would require the minimization of construction-related vibration impacts of ground improvement techniques to be located no closer than 20 feet of any existing, adjacent structures or fuel tanks; this would further reduce the less-than-significant impact.

Significance After Mitigation

Impacts would be less than significant.

Threshold 3:	Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

IMPACT N-3 OCCUPANTS OF EXISTING NEARBY SENSITIVE RECEPTORS WOULD NOT EXPERIENCE ROADWAY NOISE LEVEL INCREASES EXCEEDING APPLICABLE THRESHOLDS AS A RESULT OF PROJECT-GENERATED TRAFFIC. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Implementation of the proposed project would result in an increase in the average number of daily vehicle trips along area roadways, including SR 1, Carmel Valley Road, Rio Road, and Carmel Rancho Boulevard. The project would generate an estimated 3,833 gross daily trips, with 92 trips in the AM peak hour and 337 trips in the PM peak hour, as stated in the traffic study prepared for the project (KHTE 2017). The traffic study is included in Appendix G. In addition to generating new trips, the project is expected to redistribute existing trips, resulting in a decrease in traffic volumes in some intersections and an increase in others (see Section 4.8, *Transportation and Circulation*).

Table 30 summarizes roadway noise levels at sensitive receptors near the project site under existing conditions and existing with project conditions as modeled using the HUD DNL Calculator. The project would result in a 0.5 dBA Ldn decrease at Rio Road between Via Nona Marie and Carmel Center Place, and a 0.6 dBA Ldn increase along Rio Road west of SR 1 relative to existing conditions; the decrease is a result of expected trip redistribution resulting from the project (see Section 4.8, Transportation and Circulation for further details). As described in Section 4.13.4(a), an increase in traffic noise that does not exceed 1 dBA on a roadway with existing noise levels of 65-74 dBA Ldn would be less than significant. Based on the traffic volumes projected for this project, there would be no discernable change in traffic noise resulting from the project, and traffic noise impacts would be less than significant.

Table 30 Significance of Changes in Operational Roadway Noise Exposure

Roadway	Noise Exposure (dBA Ldn)		Change (dBA Ldn)	Exceeds Threshold?[1]
	Existing	Existing + Project		
Rio Road between Via Nona Marie and Carmel Center Place	66.3	65.8	-0.5	No
Rio Road to the west of Highway 1	70.0	70.6	0.6	No

See Appendix I for HUD DNL Calculator worksheets.

[1] See Table 26 for roadway noise increase thresholds provided by the FTA.

Mitigation Measures

No mitigation is required.

Threshold 3:	Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

IMPACT N-4 PROJECT OPERATION WOULD INTRODUCE NEW NOISE SOURCES TYPICAL OF PROPOSED CONVENIENCE MARKET/GROCERY STORE AND RETAIL USES TO THE SITE. NEW NOISE SOURCES WOULD BE SIMILAR TO THOSE OF EXISTING ADJACENT USES AND WOULD NOT RESULT IN A NOISE ENVIRONMENT INCOMPATIBLE WITH EXISTING USES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The proposed project would result in development of retail uses on an infill site adjacent to other retail and commercial properties, including a shopping center, gas station, and offices. The project would introduce new noise sources to the site similar to noises found at the adjacent shopping center and gas station, such as parking lot noises (car door slams, conversations, beeping), noises from delivery/loading trucks, and HVAC systems, which typically generate a noise level of 60-70 dBA Leq at 15 feet (Illington & Rodkin 2009). Thus, the project would not introduce any machine, mechanism, or device that would generate a noise level of 85 dBA at 50 feet in accordance with MMC Section 10.60.030.

The project would include a solid retaining wall along its western boundary, which abuts the lodging use on the adjacent property and blocks the project site from the its line of sight; a solid wall that breaks the line-of-sight typically reduces noise levels by 5 to 10 dBA (FTA 2006). This design feature would mitigate potential noise impacts to hotel units from loading dock activities along the northern side of the grocery store and other vehicle traffic along the western boundary. Although operating hours are not known, based on the hours of other similar specialty markets, it is assumed the proposed convenience market/grocery store and other retail uses on the project site would operate between the hours of 8 AM and 9 PM. Consequently, the project would not generate noise levels exceeding 45 Leq dBA or a maximum dBA of 65 between the hours of 10 PM to 7 AM, in accordance with MMC Section 10.60.040. Therefore, the project's operational noise levels would not interfere with the sleep of motel guests and nearby residents, and would not substantially alter the existing noise environment. Impacts would be less than significant and no mitigation is required.

Mitigation Measures

No mitigation is required.

4.7.5 Cumulative Impacts

The geographic extent for the analysis of cumulative stationary noise impacts is generally limited to areas within 0.5 mile of the proposed project. This geographic extent is appropriate for considering potential cumulative noise impacts because the project's noise impacts are localized and site vicinity-specific. Beyond this distance, intermittent noise may be briefly audible and steady construction noise from the proposed project would generally dissipate such that the level of noise would reduce to below the County's maximum noise standards and/or blend in with the background noise level.

As listed in Table 5, Cumulative Projects List, there is one future development proposed (but not yet approved) within a half mile of the project site, the Carmel Affordable Housing Project, which is located approximately 400 feet northeast of the project site on the east side of Val Verde Drive, south of Carmel Valley Road. Additionally, the Rancho Canada Village Project, located approximately 480 feet east of the project site, has been approved but is currently in litigation and not yet constructed. There are a number of mixed-use residences that would potentially be exposed to

construction noise from both of these projects and the proposed project, if project construction were to occur simultaneously. These residences are located approximately midway from the two project sites at a distance of 1,000 feet from each site. At such a distance, the maximum construction noise levels from the proposed project would attenuate to approximately 52 dBA CNEL; construction noise levels for the Carmel Affordable Housing Project and Rancho Canada Village Project would likely be in a similar range. Combined, the resulting cumulative noise level could potentially reach approximately 55 dBA CNEL (snapfour.com 2017). However, these are likely conservative estimates as they do not account for attenuating effects of intervening structures and topography, nor do they account for incorporation of mitigation by any of the projects. The estimate is also likely conservative because the Carmel Affordable Housing Project is not yet approved and the Rancho Canada Village Project is currently under litigation, and construction timing is unknown. Cumulative construction noise levels would fall within the normally acceptable or conditionally acceptable range for residential uses. Therefore, cumulative impacts resulting from project construction noise would be less than significant.

The Carmel Affordable Housing Project and the Rancho Canada Village Project would involve residential development, which is not typically associated with loud operational noise sources and both projects would have a less than significant impact due to operational noise. Therefore, there would be no significant cumulative impact to sensitive receptors exposed to noise from both project sites and the proposed project site.

Table 31 summarizes roadway noise levels at sensitive receptors near the project site under existing, cumulative (without project), and cumulative with project conditions, as modeled using the HUD DNL Calculator.

Table 31 Significance of Changes in Operational Roadway Noise Exposure

Roadway	Noise Exposure (dBA Ldn)			Change (dBA Ldn)	Noise Increase Threshold[1] (dBA Ldn)	Exceeds Threshold? (Existing/ Cumulative)
	Existing	Cumulative	Cumulative + Project			
Rio Road between Via Nona Marie and Carmel Center Place	66.3	66.9	66.4	0.1	1	No
Rio Road to the west of Highway 1	70.0	70.9	71.1	1.1	1	**Yes**

[1] See Table 26 for roadway noise increase thresholds provided by the FTA.

As shown in Table 32, traffic noise levels would increase by 0.1 dBA along Rio Road between Via Nona Marie and Carmel Center Place with the additional traffic from the proposed project and other cumulative projects. As described in Section 4.13.4(a), an increase in traffic noise exceeding 1 dBA on a roadway with existing noise levels of 65-74 dBA Ldn would be significant. Because the increase along this segment of road would be 0.1 dBA and well below the threshold, the cumulative impact would be less than significant.

As shown in Table 31, traffic noise levels along Rio Road to the west of Highway 1 would increase by 1.1 dBA compared to existing conditions. This increase would exceed the 1 dBA threshold and would be a significant cumulative impact. As shown in the table, cumulative noise levels on this segment of road without the project would be 70.9, an increase of 0.9, which is below the 1 dBA threshold.

Therefore, because the additional noise from project-related traffic trips would increase noise levels over the threshold, the proposed project's impact contribution would be cumulatively considerable.

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4.8 Transportation and Circulation

This section analyzes the potential for the proposed project to cause significant impacts to traffic and transportation facilities in the Carmel Valley area. The analysis in this section is based on a traffic study prepared for the project by Keith Higgins Traffic Engineer (KHTE) in December 2017 (KHTE 2017). The full study is provided in Appendix G of this EIR.

4.8.1 Summary

Table 32 summarizes the identified environmental impacts, proposed Mitigation Measures, and residual impacts of the proposed project with regard to transportation and circulation. Additional detail is provided in Section 4.8.3, Impact Analysis.

Table 32 Impact and Mitigation Summary: Transportation and Circulation

Impact	Mitigation Measures	Residual Impact
Impact T-1. Project-generated traffic would cause LOS at two study intersections and six road segments to significantly degrade relative to existing conditions. This impact would be significant and unavoidable.	**T-1 Intersection 3: Highway 1/Rio Road Improvements** Concurrent with development of the shopping center**,** the developer shall lengthen the existing eastbound left-turn lane at Rio Road and Crossroads Boulevard, which would provide access to the project's main entrance, from 170 feet (130 feet of striping) to approximately 265 feet. Extending the length of the existing left turn lane will require the existing 265-foot westbound left turn lane onto southbound Highway 1 to be shortened by an equal 95 feet. In addition, Caltrans and the TAMC are completing the design of a second northbound lane on Highway 1 that will widen Highway 1 by about 30 feet to the east. This will also reduce the length of the westbound Rio Road left turn lane by an equivalent amount. The result will be that the left turn lane will be shortened by a total of 125 feet to about 140 feet, assuming a 60-foot bay taper separating the eastbound left turn lane into the Rio Ranch Shopping Center and the westbound left turn lane onto southbound Highway 1. Consequently, the developer shall also add a second Rio Road westbound left-turn lane onto Highway 1. This will require a 90-foot bay taper, resulting in two left turn lanes each with a length of about 115 feet. The addition of the second left turn lane will require widening Rio Road 11 feet to the south between Highway 1 and the westerly Crossroads driveway, located about 170 feet east of Highway 1. A transition shall be provided to match the existing Rio Road southerly curb line on the east side of the middle Crossroads Shopping Center driveway about 250 feet to the east. Modifications along Rio Road will need to be coordinated with Caltrans and TAMC. **Monitoring Action:** Prior to issuance of grading or building permits, the applicant shall obtain all required approvals for road improvements from Caltrans and TAMC. Evidence of the approval shall be submitted to the RMA-Public Works. The required roadway improvements shall be installed prior to occupancy or final of building permits, whichever occurs first.	Impacts would be significant and unavoidable.

Impact	Mitigation Measures	Residual Impact
Impact T-2. Project-generated traffic would cause LOS at four study intersections and seven road segments to significantly degrade relative to background conditions. Impacts would be significant and unavoidable.	**T-1 Intersection 3: Highway 1/Rio Road Improvement** (see above)	Impacts would be significant and unavoidable.
Impact T-3. Project access and internal circulation as currently designed would pose potential safety hazards to on- and off-site traffic and delivery service employees. Impacts would be significant, but mitigable.	**T-3 Internal Circulation and Project Access Design Improvements.** The developer shall incorporate the recommended Mitigation Measures in the traffic study to address the potential impacts to project access and internal circulation. Mitigation would be incorporated into the final site plan and submitted for County review prior to the issuance of building permits. The following recommended measures shall be incorporated: a. Install a stop sign on the project exit at the Barnyard parking lot. b. Install all-way stop control at the four-legged intersection immediately south of the connection to the existing adjacent lodging use. c. Either relocate the loading facility in front of Store B to the on-site parking lot near Stores A and B, or design the loading facility to the satisfaction of the Monterey County Public Works Department. **Monitoring Action:** Prior to the issuance of grading or building permits, plans illustrating the location of stop signs, intersection controls, and loading areas for all proposed buildings shall be submitted to RMA-Public Works for review and approval.	Impacts would be less than significant.
Impact T-4. The project would provide sufficient access to emergency vehicles, would be required to comply with local and State standards for fire safety, and would undergo plan review for compliance with fire code standards. impacts would be less than significant.	No mitigation is required	Impacts would be less than significant.
Impact T-5. The project would not conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities. The project would have temporary, short-term impacts to public transit and pedestrian facilities during project construction. Impacts would be less than significant.	No mitigation is required.	Impacts would be less than significant.

Impact	Mitigation Measures	Residual Impact
Cumulative Impact. Project-generated traffic would cause LOS at six study intersections and seven road segments to significantly degrade relative to cumulative conditions. Impacts would be significant and unavoidable.	**T-1 Intersection 3: Highway 1/Rio Road Improvements** (see above)	Impacts would be significant and unavoidable.

4.8.2 Setting

a. Existing Street System

Highway 1

State Route (Highway) 1 provides regional access to the project site. Highway 1 is a major north-south roadway that connects the Monterey Peninsula with San Luis Obispo County to the south, and with Santa Cruz County and the San Francisco Bay Area to the north. Highway 1 is a four-lane freeway north of Carpenter Street, a four- to five-lane roadway between Carpenter Street and Ocean Avenue, a three-lane roadway (two lanes northbound and one lane southbound) between Ocean Avenue and Carmel Valley Road, and a two-lane roadway south of Carmel Valley Road. Highway 1 is part of the Monterey County Congestion Management Program (CMP) highway network and is designated as a State Scenic Highway. The speed limit on Highway 1 in the vicinity of the project is 45 miles per hour.

Local access to the site is provided by Carmel Valley Road, Rio Road, and Carmel Rancho Boulevard. These roadways are described below:

Carmel Valley Road

Carmel Valley Road is an east-west roadway that begins at Highway 1 and continues east to the City of Greenfield. Carmel Valley Road has four lanes from Highway 1 to approximately 1,800 feet west of Rancho San Carlos Road and two lanes east of Rancho San Carlos Road. Carmel Valley Road is classified as a major arterial and has a speed limit of 45 miles per hour in the vicinity of the project site.

Rio Road

Rio Road includes two discontinuous segments of roadway east and west of the project site. The eastern part is a short north-south two-lane segment that connects to Carmel Valley Road and provides access to Carmel Middle School and the Community Church of the Monterey Peninsula. The western part is an east-west roadway with two lanes between Highway 1 and Junipero Street, and four lanes between Highway 1 and Val Verde Drive. The speed limit on Rio Road in the vicinity of the project site is 25 miles per hour.

Carmel Rancho Boulevard

Carmel Rancho Boulevard is a four-lane north-south roadway that extends from Carmel Valley Road to Rio Road. It provides access to various commercial developments and also serves through traffic

between Carmel Valley Road and Highway 1 south of Rio Road. The speed limit on Carmel Rancho Boulevard in the vicinity of the project site is 35 miles per hour.

c. Existing Bicycle, Pedestrian, and Transit Facilities

The County of Monterey adopted the Monterey County Bikeway Plan in 2008 and the Transportation Agency for Monterey County (TAMC) adopted their Bicycle and Pedestrian Master Plan in 2011. These documents designate routes along roadways that can be used by bicycling commuters and recreational riders for safe access to major employers, shopping centers, and schools. Consistent with State and Federal designations, there are three basic types of bicycle facilities:

- **Bike Path (Class I).** A completely separate right-of-way designed for the exclusive use of cyclists and pedestrians, with minimal crossings for motorists.
- **Bike Lane (Class II).** A lane on a regular roadway, separated from the motorized vehicle right-of-way by paint striping, designated for the exclusive or semi-exclusive use of bicycles. Bike lanes allow one-way bike travel. Through travel by motor vehicles or pedestrians is prohibited, but crossing by pedestrians and motorists is permitted.
- **Bike Route (Class III).** Provides shared use of the roadway with motorists, designated by signs or permanent markings.

In the vicinity of the project site, Class II bike lanes are provided on the north side of Carmel Valley Road east of Carmel Rancho Boulevard, and on the south side Carmel Valley Road east of Carmel Middle School.

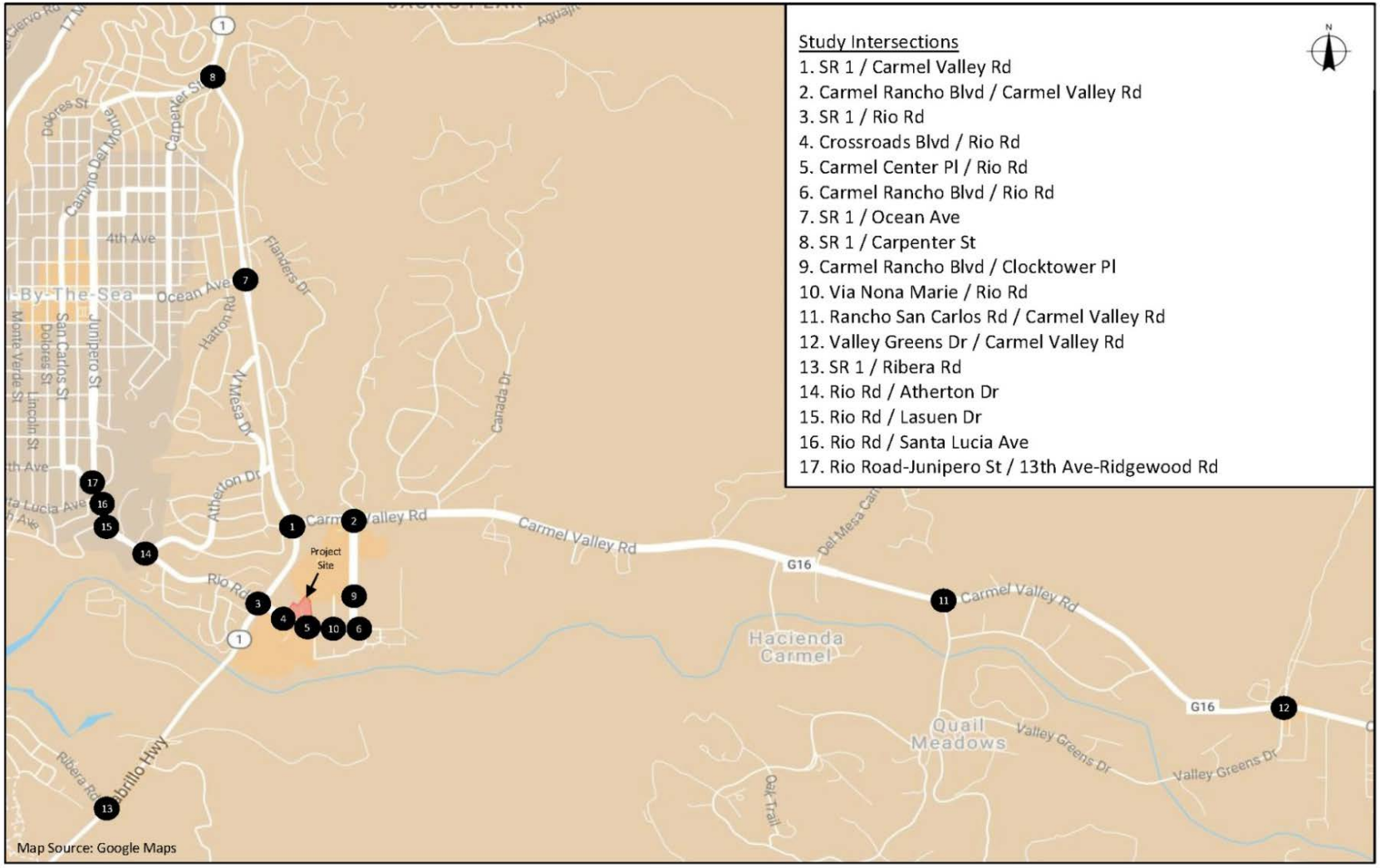
Sidewalks are provided continuously along Rio Road between Highway 1 and Carmel Rancho Boulevard Highway 1 and a Class I multi-use path is provided on the east side of Highway 1 beginning at the Crossroads Shopping Center and continuing north to Canyon Drive.

The primary public transit service in the County of Monterey is the bus service provided by Monterey-Salinas Transit (MST). In the vicinity of the project site, MST Route 24 provides bus service along Rio Road, Carmel Rancho Boulevard, and Carmel Valley Road between Carmel Valley Village and the Monterey Transit Plaza with 60-minute headways during weekday peak hours. MST Route 94 provides bus service along Rio Road and Carmel Rancho Boulevard to and from Carmel-by-the-Sea with about 30 minute headways during weekday mornings between about 7:00 AM and 9:00 AM. Bus stops within the study area are located on Carmel Rancho Boulevard between Carmel Valley Road and Rio Road and on Rio Road between Carmel Center Place and Via Nona Marie.

d. Existing Traffic Conditions

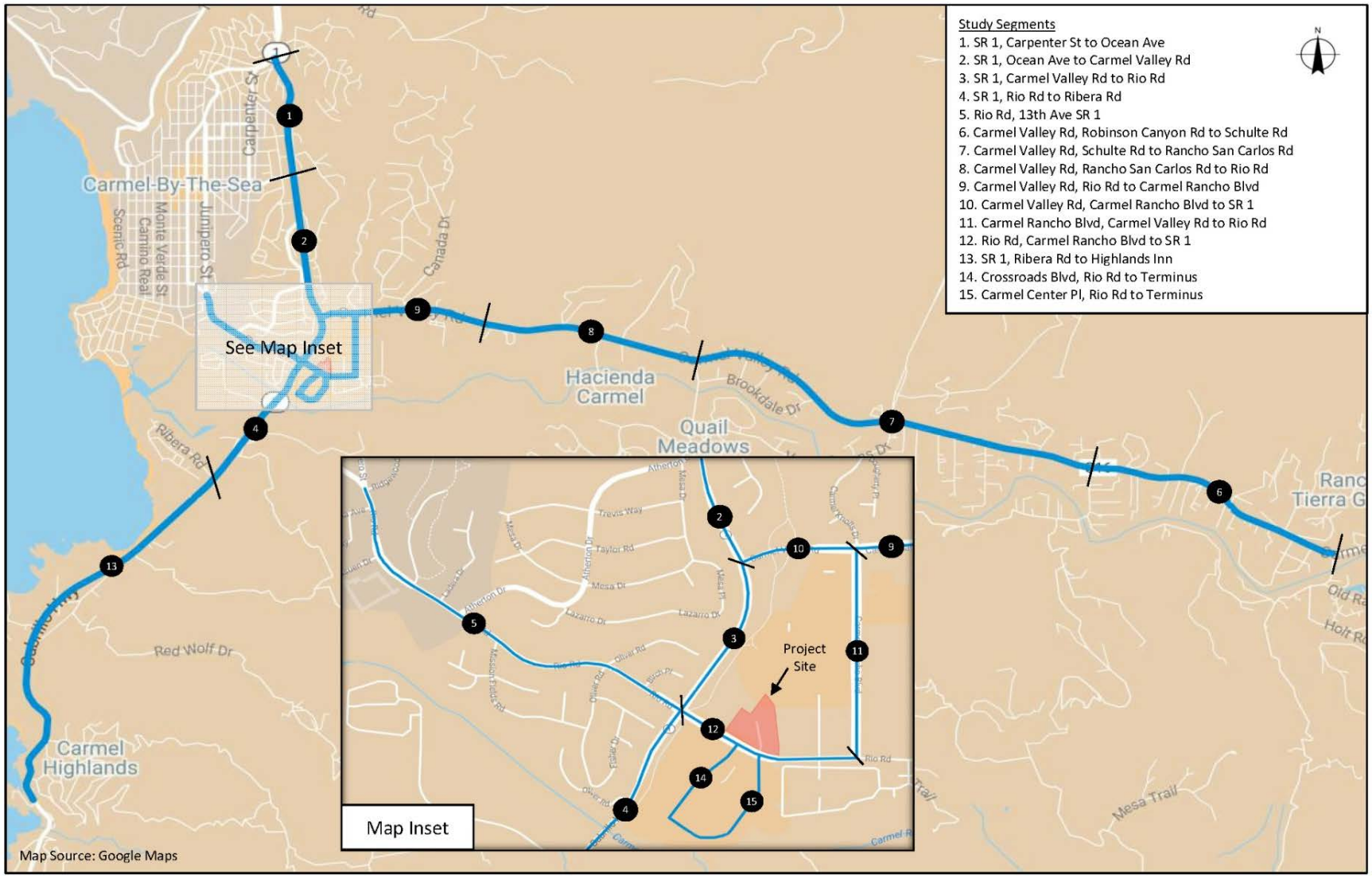
The traffic study included an evaluation of 17 study intersections and 15 roadway segments, which are listed below along with their jurisdiction (in parentheses). Figure 25 and Figure 26 display the study intersections and study segments, respectively. Intersection turning movement counts of vehicles, bicycles, and pedestrians were collected during the weekday AM peak period and PM peak period and the Saturday peak hour at each study intersection in May, September, and November 2017. Peak hour traffic volumes at the commercial driveways along Rio Road between Highway 1 and Carmel Rancho Boulevard were also counted. Detailed data sheets showing the results of the intersection counts are provided in the traffic study (Appendix G).

Figure 25 Study Intersections



Source: KHTE 2017

Figure 26 Study Segments



Source: KHTE 2017

Study Intersections

1. Highway 1/Carmel Valley Road (Caltrans)
2. Carmel Rancho Boulevard/Carmel Valley Road (Monterey County)
3. Highway 1/ Rio Road (Caltrans)
4. Crossroads Boulevard/Rio Road (Monterey County)
5. Carmel Center Place/Rio Road (Monterey County)
6. Carmel Rancho Boulevard/Rio Road (Monterey County)
7. Highway 1/Ocean Avenue (Caltrans)
8. Highway 1/Carpenter Street (Caltrans)
9. Carmel Rancho Boulevard/Clocktower Place (Monterey County)
10. Via Nona Marie/Rio Road (Monterey County)
11. Rancho San Carlos Boulevard/Carmel Valley Road (Monterey County)
12. Valley Greens Drive/Carmel Valley Road (Monterey County)
13. Highway 1/Ribera Road (Caltrans)
14. Rio Road/Atherton Drive (Monterey County and City of Carmel)
15. Rio Road/Lasuen Drive (City of Carmel)
16. Rio Road/Santa Lucia Avenue (City of Carmel)
17. Rio Road-Junipero Street/13th Avenue-Ridgewood Road (City of Carmel)

Study Road Segments

1. Highway 1: Carpenter Street to Ocean Avenue (Caltrans)
2. Highway 1: Ocean Avenue to Carmel Valley Road (Caltrans)
3. Highway 1: Carmel Valley Road to Rio Road (Caltrans)
4. Highway 1: Rio Road to Ribera Road (Caltrans)
5. Rio Road: 13th Avenue to Highway 1 (Monterey County and Carmel)
6. Carmel Valley Road: Robinson Canyon Road to Schulte Road (Monterey County)
7. Carmel Valley Road: Schulte Road to Rancho San Carlos Road (Monterey County)
8. Carmel Valley Road: Rancho San Carlos Road to Rio Road (Monterey County)
9. Carmel Valley Road: Rio Road to Carmel Rancho Boulevard (Monterey County)
10. Carmel Valley Road: Carmel Rancho Boulevard to Highway 1 (Monterey County)
11. Carmel Rancho Boulevard: Carmel Valley Road to Rio Road (Monterey County)
12. Rio Road: Carmel Rancho Boulevard to Highway 1(Monterey County)
13. Highway 1: Ribera Road to Highlands Inn (Caltrans)
14. Crossroads Boulevard: Rio Road to Carmel Center Place (Monterey County)
15. Carmel Center Place: Rio Road to Crossroads Boulevard (Monterey County)

Existing traffic conditions at the study area intersections and segments were evaluated based on the Level of Service (LOS) concept, and the LOS standard adopted by the jurisdiction within which the intersection is located. LOS is a qualitative description of an intersection's operation, ranging from LOS A to LOS F. LOS "A" represents free flow un-congested traffic conditions. LOS "F" represents

highly congested traffic conditions with what is commonly considered unacceptable delay to vehicles at intersections. The intermediate LOS represents incremental levels of congestion and delay between these two extremes.

Intersection traffic operations were evaluated using the Synchro analysis software (Version 9) which is based on the *Highway Capacity Manual (HCM) 2010* methodologies for signalized and un-signalized intersections. HCM 2000 methods were used in cases where the HCM 2010 methods do not allow the analysis of specific lane configurations or signal phasing.

Signalized and all-way stop controlled intersection operations are based on the average vehicular delay at the intersection. The average delay is then correlated to a LOS. For one-way and two-way stop controlled intersections, the vehicular delay for side street traffic is analyzed. LOS for each side street movement is based on the distribution of gaps in the major street traffic stream and driver judgment in selecting gaps. Improvements are warranted when a side street approach reaches LOS F for two-way stop controlled intersections. LOS descriptions for signalized intersections are included as Appendix A of the traffic study; LOS descriptions for one-way and two-way stop controlled intersections are included as Appendix B of the traffic study; and LOS descriptions for all-way stop controlled intersections are included as Appendix C of the study (refer to Appendix G in this EIR).

Arterial road segment operations are based on travel speed as a percentage of free flow speed, per Exhibit 17-2 of the 2010 HCM (KHTE 2017). Two-lane highway segment operations are based on percent time spent following (PTSF), per Exhibit 15-3 of the 2010 HCM. Multi-lane highway segment operations are based on density in passenger cars per mile per lane (pc/mi/ln) per Exhibit 14-4 of the 2010 HCM. LOS descriptions for arterial, two-lane highway, and multi-lane highway road segments are included as Appendix D of the traffic study (Appendix G). The CVMP also provides the following average daily traffic (ADT) volume thresholds for the study segments along Carmel Valley Road (segments 6 – 12), which are provided in Table 33.

Table 33 Carmel Valley Road ADT Thresholds

CVMP Segment Number	Segment	CVMP Threshold
6	CVR between Robinson Canyon Road & Schulte Road	15,499
7	CVR between Schulte Road & Rancho San Carlos Road	16,340
8	CVR between Rancho San Carlos Road & Rio Road	48,487
9	CVR between Rio Road & Carmel Rancho Blvd	51,401
10	CVR between Carmel Rancho Blvd & Highway 1	27,839
11	Carmel Rancho Blvd between CVR & Rio Road	33,495
13	Rio Road between Carmel Rancho Blvd & Highway 1	33,928

CVR = Carmel Valley Road

Source: County of Monterey 2013b

Existing Intersection Operations

The weekday AM peak hour and PM peak hour LOS and the Saturday peak hour LOS at each study intersection is shown in Table 34. Figure 27 and Figure 28 provide weekday AM and PM peak hour traffic volumes and Saturday PM peak hour traffic volumes at study intersections, respectively.

Table 34 Existing Conditions Intersection LOS

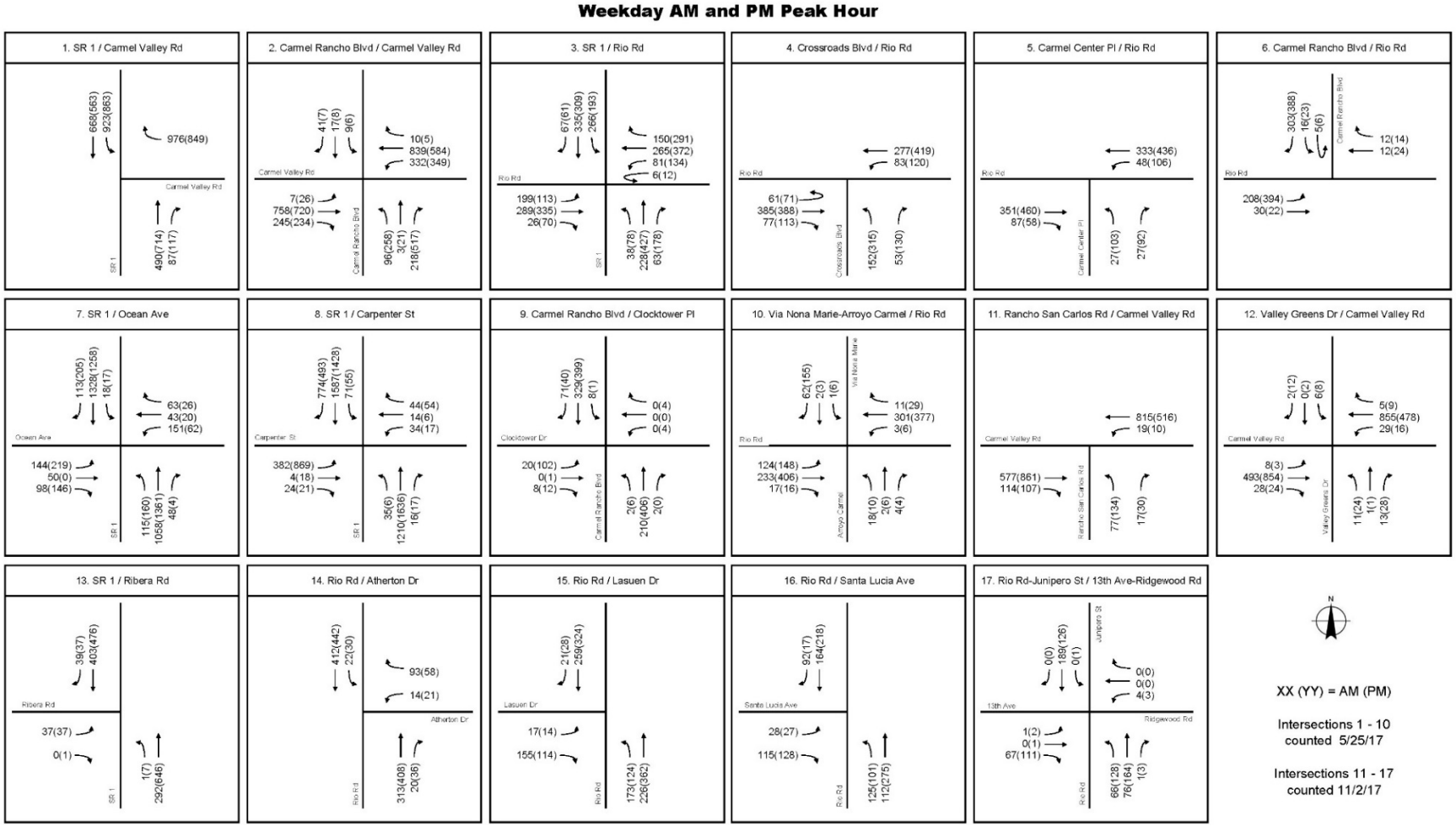
	Intersection	Control Type	Jurisdiction	LOS Standard[1]	AM Peak Hour		PM Peak Hour		Saturday Peak Hour	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	Highway 1/Carmel Valley Road	Signal	Caltrans	C/D	12.2	B	13.2	B	11.5	B
2	Carmel Rancho Blvd/Carmel Valley Road	Signal	Monterey County	C	21.1	C	24.0	C	18.1	B
3	Highway 1/ Rio Road	Signal	Caltrans	C/D	35.0	C	48.9	**D**	59.9	**E**
4	Crossroads Blvd/Rio Road	Signal	Monterey County	C	11.8	B	13.2	B	14.1	B
5	Carmel Center Place/Rio Road	Signal	Monterey County	C	8.9	A	7.7	A	7.2	A
6	Carmel Rancho Blvd/Rio Road	Two-Way Stop	Monterey County	C or E	11.0	B	17.1	C	14.4	B
7	Highway 1/Ocean Ave	Signal	Caltrans	C/D	29.7	C	26.5	C	26.8	C
8	Highway 1/Carpenter St	Signal	Caltrans	C/D	22.3	C	37.1	**D**	20.4	C
9	Carmel Rancho Blvd/Clocktower Place	Two-Way Stop	Monterey County	E	13.8	B	22.6	C	17.2	C
10	Via Nona Marie/Rio Road	Two-Way Stop	Monterey County	E	19.0	C	29.9	D	22.7	C
11	Rancho San Carlos Boulevard/Carmel Valley Road	Signal	Monterey County	C	9.5	A	10.2	B	9.3	A
12	Valley Greens Drive/Carmel Valley Road	Two-Way Stop	Monterey County	C or E	42.3	E	39.1	E	27.2	D
13	Highway 1/Ribera Road	One-Way Stop	Caltrans	E	16.3	C	26.1	D	37.0	E
14	Rio Road/Atherton Drive	One-Way Stop	Monterey County and City of Carmel	E	14.7	B	14.9	B	13.8	B
15	Rio Road/Lasuen Drive	One-Way Stop	City of Carmel	E	16.8	C	13.6	B	12.0	B
16	Rio Road/Santa Lucia Avenue	One-Way Stop	City of Carmel	E	12.9	B	12.6	B	11.9	B
17	Rio Road-Junipero Street/13th Avenue-Ridgewood Road	All-Way Stop	City of Carmel	C	8.9	A	9.5	A	9.2	A

1. Intersections 2, 4, 5, 6, 9, 10, 11, and 12 fall within the CVMP and are subject to CVMP LOS standards.

2. LOS given in bold with a grey background indicates an exceedance of the applicable LOS standard.

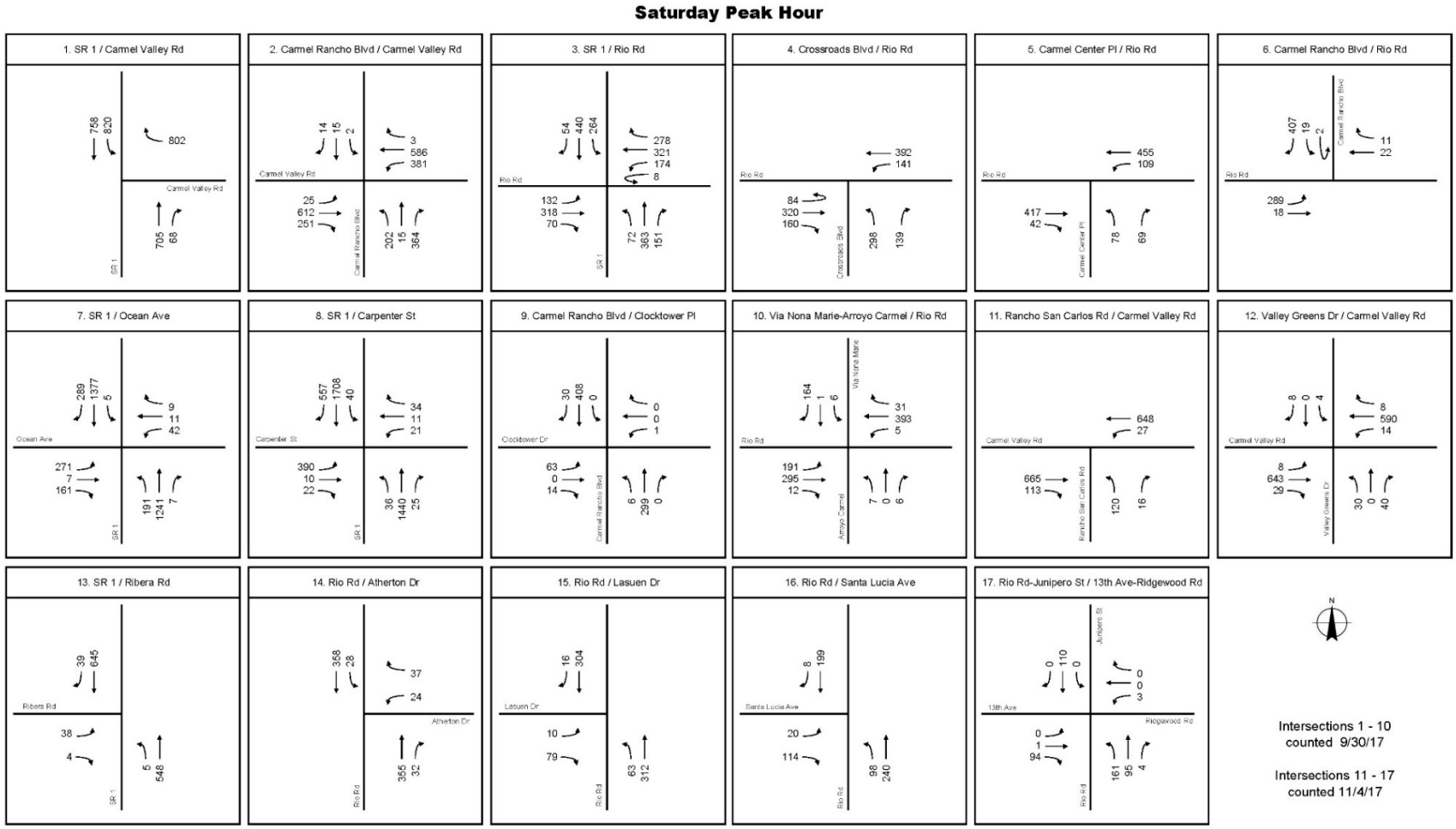
Source: KHTE 2017

Figure 27 Existing Conditions Weekday Peak Hour Volumes



Source: KHTE 2017

Figure 28 Existing Conditions Saturday Peak Hour Volumes



Source: KHTE 2017

Based on the LOS standards for each jurisdiction, the following study intersections operate at unacceptable LOS under existing conditions:

- Intersection 3 – Highway 1/Rio Road (Caltrans)
- Intersection 8 – Highway 1/Carpenter Street (Caltrans). The provision of a third northbound through lane would improve traffic operations to an acceptable level. However, no improvements are currently planned at this intersection.

Existing Road Segment Operations

Peak hour segment volumes along Highway 1, Rio Road, Crossroads Boulevard, and Carmel Center Place were derived from the traffic counts described above. Carmel Valley Road peak hour and Average Daily Traffic (ADT) volumes were obtained from Monterey County Department of Public Works staff. ADT volumes on Carmel Rancho Boulevard and Rio Road were also obtained from Monterey County staff.

Road segment LOS is summarized below in Table 35. Except for segment 7, the ADT on the roadways included in the CVMP are below the CVMP ADT thresholds under existing conditions.

Based on the LOS standards, the following study road segments operate at unacceptable LOS during the weekday AM, PM, and/or Saturday peak hours:

- Segment 2 – Southbound (SB) Highway 1: Ocean Ave to Carmel Valley Road
- Segment 3 – Northbound (NB) & SB Highway 1: Carmel Valley Road to Rio Road
- Segment 4 – NB & SB Highway 1: Rio Road to Ribera Road
- Segment 6 – Eastbound (EB) & Westbound (WB) Carmel Valley Road: Robinson Canyon Road to Schulte Road
- Segment 7 – EB & WB Carmel Valley Road: Schulte Road to Rancho San Carlos Road
- Segment 12 – WB Rio Road: Carmel Rancho Blvd to Highway 1
- Segment 13 – NB & SB Highway 1: Ribera Road to Highlands Inn

These road segments operate at an unacceptable LOS D, E, or F under existing traffic conditions.

e. Background Conditions

This section describes the analyses of the study road network under background traffic conditions. Background conditions model traffic conditions with traffic from approved but not yet constructed developments added to the study intersections and road segments; background conditions do not include traffic from the proposed project. A list of approved projects and a map showing their locations are provided in Appendix I and J of the traffic study, respectively. The full traffic study is provided in Appendix G of this document.

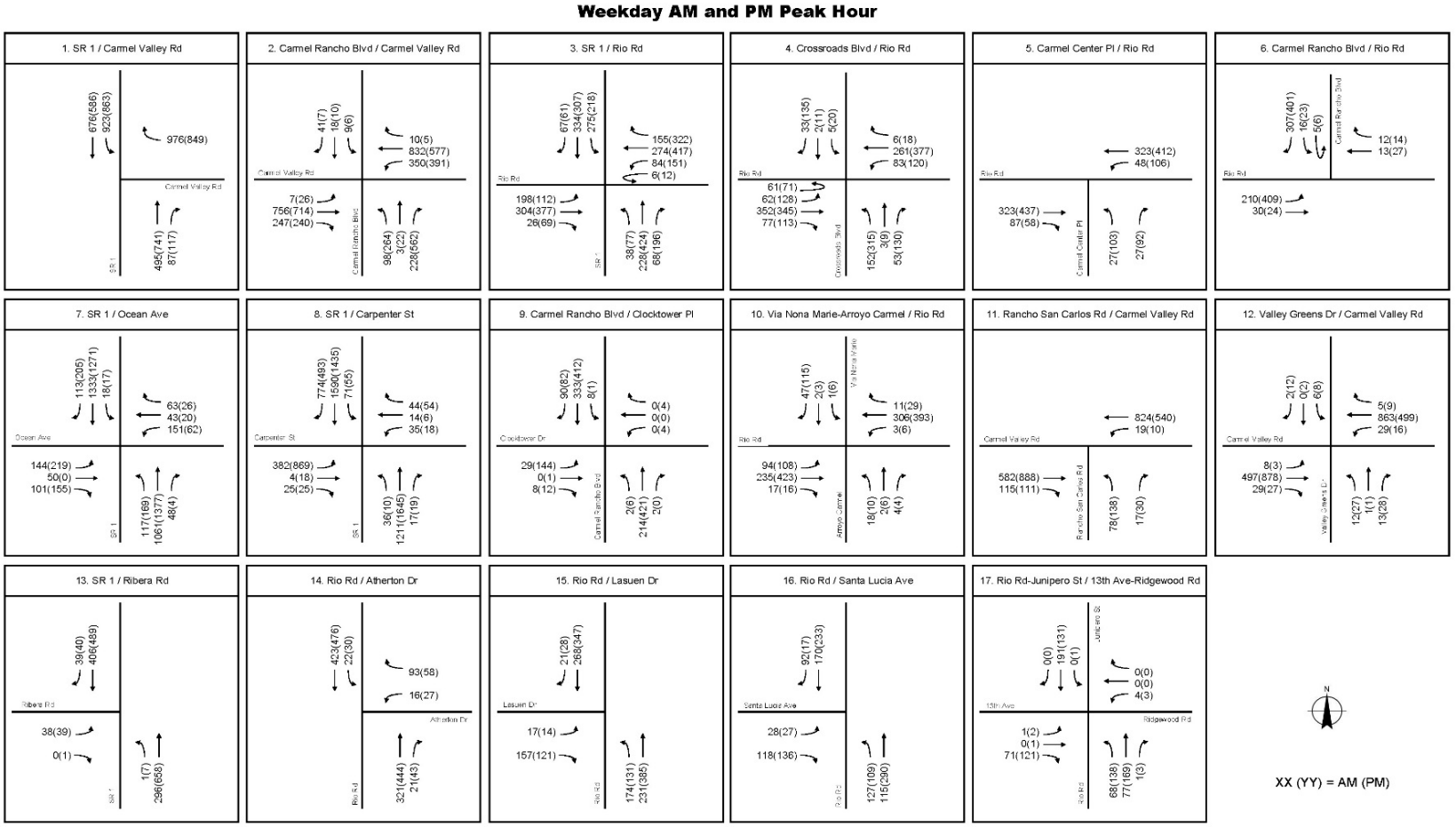
AM and PM peak hour traffic generated by projects approved for development, but not yet constructed or occupied, was estimated based on trip generation rates in the ITE *Trip Generation* handbook, 9th Edition, 2012. The trips generated by the approved, but not yet built or occupied, projects were assigned to the road network and combined with the existing peak hour volumes to obtain background traffic volumes. Weekday AM and PM, and Saturday peak hour traffic volumes at the study intersections are shown below in Figure 29 and Figure 30, respectively.

Table 35 Existing Conditions Road Segment Levels of Service

Segment		From	To	CVMP ADT Threshold	ADT	Direction	AM Peak Hour LOS	PM Peak Hour LOS	Saturday Peak Hour LOS
1	Highway 1	Carpenter St	Ocean Ave	N/A	N/A	NB	B	C	C
						SB	C	B	C
2	Highway 1	Ocean Ave	Carmel Valley Road	N/A	N/A	NB	C	C	C
						SB	**F**	**F**	**F**
3	Highway 1	Carmel Valley Road	Rio Road	N/A	N/A	NB	**D**	**E**	**E**
						SB	**D**	**D**	**D**
4	Highway 1	Rio Road	Ribera Road	N/A	N/A	NB	C	**D**	**D**
						SB	**D**	**D**	**D**
5	Rio Road	13th Ave	Highway 1	N/A	N/A	EB	B	B	B
						WB	B	B	B
6	Carmel Valley Road	Robinson Canyon Road	Schulte Road	15,499	14,975	EB	C	**E**	**D**
						WB	**E**	C	**D**
7	Carmel Valley Road	Schulte Road	Rancho San Carlos Road	16,340	**16,621**	EB	**D**	E	**D**
						WB	E	**D**	**D**
8	Carmel Valley Road	Rancho San Carlos Road	Rio Road	48,487	19,117	EB	A	A	A
						WB	A	A	A
9	Carmel Valley Road	Rio Road	Carmel Rancho Blvd	51,401	24,558	EB	A	B	A
						WB	B	A	A
10	Carmel Valley Road	Carmel Rancho Blvd	Highway 1	27,839	22,654	EB	A	A	A
						WB	B	A	A
11	Carmel Rancho Blvd	Carmel Valley Road	Rio Road	33,495	10,135	NB	A	A	A
						SB	A	B	B
12	Rio Road	Carmel Rancho Blvd	Highway 1	33,928	12,099	NB	C	C	C
						SB	**D**	**D**	**D**
13	Highway 1	Ribera Road	Highlands Inn	N/A	N/A	NB	C	**D**	**D**
						SB	**D**	**D**	**D**
14	Crossroads Blvd	Rio Road	Terminus	N/A	N/A	NB	C	C	C
						SB	C	C	C
15	Carmel Center Place	Rio Road	Terminus	N/A	N/A	NB	A	A	A
						SB	A	A	A

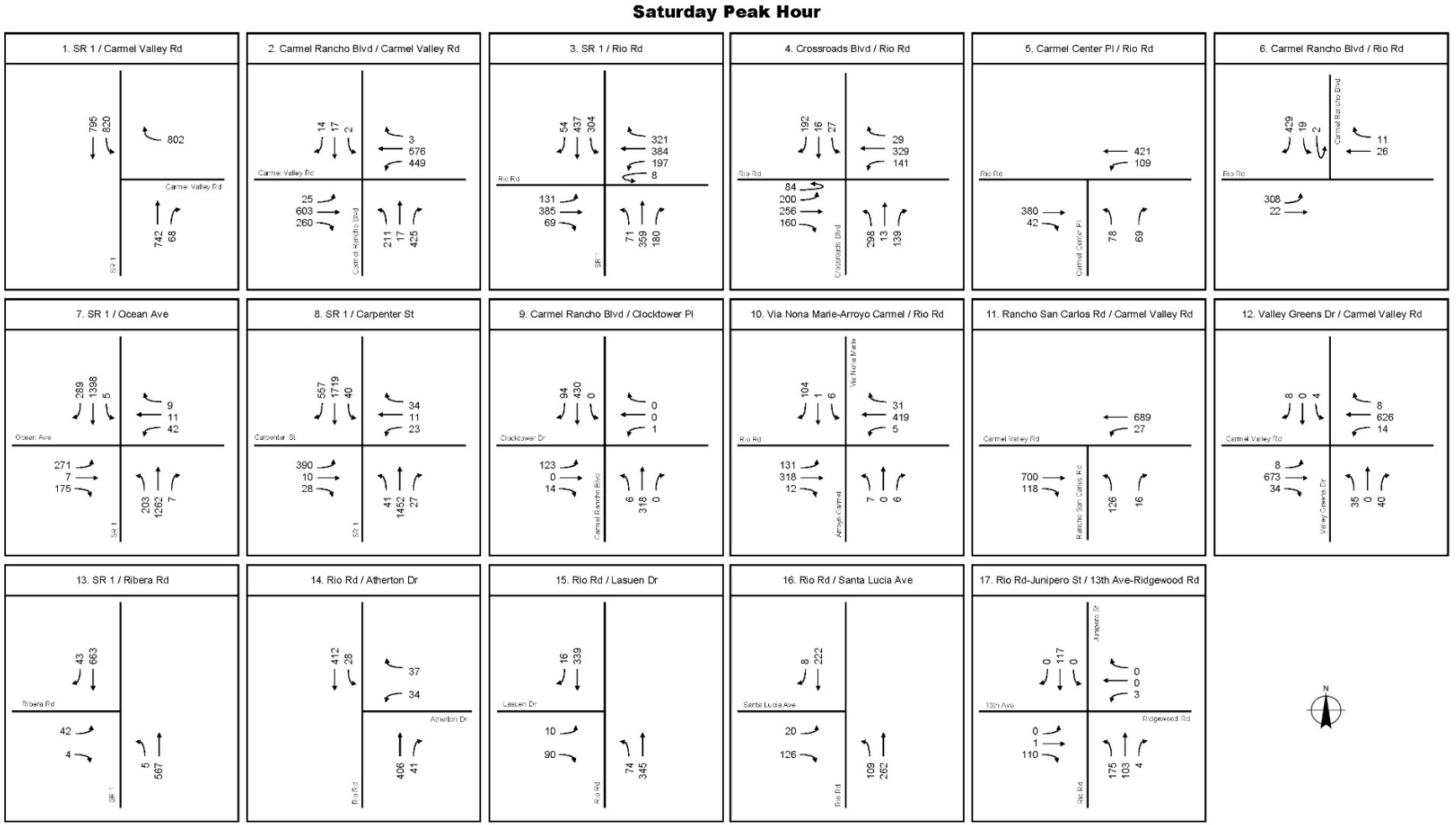
Notes: Entries given in bold with a grey background indicates an exceedance of the applicable LOS standard or CVMP ADT threshold.
Source: KHTE 2017

Figure 29 Background Conditions Weekday AM and PM Peak Hour Volumes



Source: KHTE 2017

Figure 30 Background Conditions Saturday Peak Hour Volumes



Source: KHTE 2017

Background Intersection Operations

Intersection LOS under background conditions are summarized in Table 36. Based on the applicable LOS standards, all the study intersections are projected to operate at acceptable LOS under background conditions with the following exceptions:

- Intersection 3 – Highway 1/Rio Road
- Intersection 8 – Highway 1/Carpenter Street
- Intersection 12 – Valley Greens Drive/Carmel Valley Road

Table 36 Background Conditions Intersection LOS

Intersection		Control Type	Jurisdiction	LOS Standard[1]	AM Peak Hour		PM Peak Hour		Saturday Peak Hour	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	Highway 1/ Carmel Valley Road	Signal	Caltrans	C/D	13.2	B	15.1	B	12.9	B
2	Carmel Rancho Blvd/Carmel Valley Road	Signal	Monterey County	C	24.0	C	31.2	C	21.0	C
3	Highway 1/ Rio Road	Signal	Caltrans	C/D	41.3	**D**	52.9	**D**	63.7	**E**
4	Crossroads Blvd/Rio Road	Signal	Monterey County	C	11.9	B	13.6	B	15.8	B
5	Carmel Center Place/Rio Road	Signal	Monterey County	C	8.8	A	7.5	A	8.9	A
6	Carmel Rancho Blvd/Rio Road	Two-Way Stop	Monterey County	C or E	11.7	B	19.6	C	16.4	C
7	Highway 1/Ocean Ave	Signal	Caltrans	C/D	32.6	C	27.7	C	30.9	C
8	Highway 1/ Carpenter St	Signal	Caltrans	C/D	23.4	C	39.6	**D**	22.1	C
9	Carmel Rancho Blvd/Clocktower Place	Two-Way Stop	Monterey County	E	14.4	B	24.7	C	18.4	C
10	Via Nona Marie/Rio Road	Two-Way Stop	Monterey County	E	19.8	C	31.9	D	24.0	C
11	Rancho San Carlos Boulevard/Carmel Valley Road	Signal	Monterey County	C	9.5	A	11.4	B	9.2	A
12	Valley Greens Drive/Carmel Valley Road	Two-Way Stop	Monterey County	C or E	47.7	E	76.5	**F**	45.3	E
13	Highway 1/Ribera Road	One-Way Stop	Caltrans	E	16.4	C	27.0	D	29.1	D
14	Rio Road/Atherton Drive	One-Way Stop	Monterey County and City of Carmel	E	14.7	B	15.0	B	13.8	B

Intersection		Control Type	Jurisdiction	LOS Standard[1]	AM Peak Hour		PM Peak Hour		Saturday Peak Hour	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
15	Rio Road/Lasuen Drive	One-Way Stop	City of Carmel	E	16.9	C	13.7	B	12.1	B
16	Rio Road/Santa Lucia Avenue	One-Way Stop	City of Carmel	E	13.0	B	13.1	B	11.9	B
17	Rio Road-Junipero Street/13th Avenue-Ridgewood Road	All-Way Stop	City of Carmel	C	8.9	A	9.6	A	9.3	A

1. Intersections 2, 4, 5, 6, 9, 10, 11, and 12 fall within the CVMP and are subject to CVMP LOS standards. Intersections under the jurisdiction of the City of Carmel are subject to Monterey County LOS standards.

2. LOS given in bold with a grey background indicates an exceedance of the applicable LOS standard.

Source: KHTE 2017

Background Road Segment Operations

Road segment LOS under background conditions are summarized in Table 37. Except for segments 6 and 7, the ADTs on the roadways included in the CVMP are projected to be below the CVMP ADT thresholds under background conditions. Based on the LOS standards, the following study road segments are projected to operate at unacceptable LOS during the weekday AM, PM, and/or Saturday peak hours:

- Segment 2 – SB Highway 1: Ocean Ave to Carmel Valley Road
- Segment 3 – NB & SB Highway 1: Carmel Valley Road to Rio Road
- Segment 4 – NB & SB Highway 1: Rio Road to Ribera Road
- Segment 6 – EB & WB Carmel Valley Road: Robinson Canyon Road to Schulte Road
- Segment 7 – EB & WB Carmel Valley Road: Schulte Road to Rancho San Carlos Road
- Segment 12 – WB Rio Road: Carmel Rancho Blvd to Highway 1
- Segment 13 – NB & SB Highway 1: Ribera Road to Highlands Inn

These road segments are projected to operate at an unacceptable LOS D, E, or F under background traffic conditions. These are same segments with deficiencies under existing conditions.

Table 37 Background Conditions Road Segment LOS

Segment		From	To	CVMP ADT Threshold	ADT	Direction	AM Peak Hour LOS	PM Peak Hour LOS	Saturday Peak Hour LOS
1	Highway 1	Carpenter St	Ocean Ave	N/A	N/A	NB	B	C	C
						SB	C	C	C
2	Highway 1	Ocean Ave	Carmel Valley Road	N/A	N/A	NB	C	C	C
						SB	**F**	**F**	**F**
3	Highway 1	Carmel Valley Road	Rio Road	N/A	N/A	NB	**D**	**E**	**D**
						SB	**D**	**D**	**D**
4	Highway 1	Rio Road	Ribera Road	N/A	N/A	NB	C	**D**	**D**
						SB	**D**	**D**	**D**
5	Rio Road	13th Ave	Highway 1	N/A	N/A	EB	B	B	B
						WB	B	B	B
6	Carmel Valley Road	Robinson Canyon Road	Schulte Road	15,499	**16,305**	EB	C	**E**	**D**
						WB	**E**	**D**	**D**
7	Carmel Valley Road	Schulte Road	Rancho San Carlos Road	16,340	**18,121**	EB	**D**	**E**	**E**
						WB	**E**	**D**	**D**
8	Carmel Valley Road	Rancho San Carlos Road	Rio Road	48,487	21,117	EB	A	B	A
						WB	A	**A**	A
9	Carmel Valley Road	Rio Road	Carmel Rancho Blvd	51,401	27,558	EB	B	B	A
						WB	B	B	A
10	Carmel Valley Road	Carmel Rancho Blvd	Highway 1	27,839	24,984	EB	B	A	A
						WB	B	A	A
11	Carmel Rancho Blvd	Carmel Valley Road	Rio Road	33,495	10,815	NB	A	A	A
						SB	A	B	B
12	Rio Road	Carmel Rancho Blvd	Highway 1	33,928	12,219	NB	C	C	C
						SB	**D**	**D**	**D**
13	Highway 1	Ribera Road	Highlands Inn	N/A	N/A	NB	C	**D**	**D**
						SB	**D**	C	**D**
14	Crossroads Blvd	Rio Road	Terminus	N/A	N/A	NB	C	C	A
						SB	C	C	C
15	Carmel Center Place	Rio Road	Terminus	N/A	N/A	NB	A	A	A
						SB	A	A	A

Notes: Entries given in bold with a grey background indicates an exceedance of the applicable LOS standard or CVMP ADT threshold.

Source: KHTE 2017

f. Cumulative Conditions

Cumulative Intersection Operations

This section describes the analyses of the study area road network under cumulative traffic conditions. Cumulative traffic conditions were assigned to individual roadways using one of two modeling scenarios: 1) 2035 traffic volume forecasts from the 2014 AMBAG Regional Traffic Demand Model (RTDM), or 2) background condition traffic volumes combined with trips generated by proposed but not yet approved (i.e., pending) projects in Carmel Valley; a list of pending projects and a map showing pending project locations are provided in Appendix K and Appendix L of the traffic study. Traffic increases due to the list of pending projects were generally given precedence over the RTDM forecasts in the vicinity of the project because they are local in nature, result in higher volume forecasts than the RTDM, can be assigned to the network more accurately than a regional model, and provide a more conservative estimate of future traffic volumes. The RTDM forecasts were used in areas where the addition of traffic from pending projects resulted in lower volumes than the RTDM forecasts, again providing a more conservative analysis.

Weekday AM, PM, and Saturday peak hour traffic generated by pending projects was estimated based on trip generation rates in the ITE Trip Generation handbook, 9th Edition (ITE 2012). Trips generated by the cumulative projects were assigned to the road network and combined with the background traffic volumes to estimate cumulative traffic volumes. Weekday AM and PM peak hours, and Saturday peak hour traffic volumes at the study intersections are shown in Figure 31 and Figure 32, respectively.

Intersection LOS is summarized in Table 38. Based on the LOS standards, all the study intersections are forecasted to operate at acceptable LOS under cumulative conditions with the following exceptions:

- Intersection 3 – Highway 1/Rio Road
- Intersection 7 – Highway 1/Ocean Avenue
- Intersection 8 – Highway 1/Carpenter Street
- Intersection 12 – Valley Greens Drive/Carmel Valley Road
- Intersection 13 – Highway 1/Ribera Road

These intersections are projected to operate at an unacceptable LOS D, E, or F under cumulative traffic conditions.

Table 38 Cumulative Conditions Intersection LOS

	Intersection	Control Type	Jurisdiction	LOS Standard[1]	AM Peak Hour Delay (sec)	AM Peak Hour LOS	PM Peak Hour Delay (sec)	PM Peak Hour LOS	Saturday Peak Hour Delay (sec)	Saturday Peak Hour LOS
1	Highway 1/Carmel Valley Road	Signal	Caltrans	C/D	16.8	B	25.1	C	20.1	C
2	Carmel Rancho Blvd/Carmel Valley Road	Signal	Monterey County	C	28.4	C	34.7	C	22.1	C
3	Highway 1/ Rio Road	Signal	Caltrans	C/D	44.9	**D**	68.6	**E**	73.0	**E**
4	Crossroads Blvd/Rio Road	Signal	Monterey County	C	11.9	B	13.7	B	15.2	B
5	Carmel Center Place/Rio Road	Signal	Monterey County	C	5.0	A	7.4	A	6.6	A
6	Carmel Rancho Blvd/Rio Road	Two-Way Stop	Monterey County	C or E	13.3	B	22.9	C	18.8	C
7	Highway 1/Ocean Ave	Signal	Caltrans	C/D	41.9	**D**	33.5	C	40.2	**D**
8	Highway 1/Carpenter St	Signal	Caltrans	C/D	25.4	C	49.8	**D**	24.7	C
9	Carmel Rancho Blvd/Clocktower Place	Two-Way Stop	Monterey County	E	14.8	B	27.8	D	19.8	C
10	Via Nona Marie/Rio Road	Two-Way Stop	Monterey County	E	21.6	C	36.6	E	27.2	D
11	Rancho San Carlos Boulevard/Carmel Valley Road	Signal	Monterey County	C	9.1	A	12.3	B	9.6	A
12	Valley Greens Drive/Carmel Valley Road	Two-Way Stop	Monterey County	C or E	53.9	**F**	94.9	**F**	53.7	**F**
13	Highway 1/Ribera Road	One-Way Stop	Caltrans	E	21.5	C	47.3	E	52.1	**F**
14	Rio Road/Atherton Drive	One-Way Stop	Monterey County and City of Carmel	E	15.1	C	15.1	C	14.0	B
15	Rio Road/Lasuen Drive	One-Way Stop	City of Carmel	E	17.2	C	13.9	B	12.2	B
16	Rio Road/Santa Lucia Avenue	One-Way Stop	City of Carmel	E	13.1	B	12.8	B	12.1	B

	Intersection	Control Type	Jurisdiction	LOS Standard[1]	AM Peak Hour Delay (sec)	AM Peak Hour LOS	PM Peak Hour Delay (sec)	PM Peak Hour LOS	Saturday Peak Hour Delay (sec)	Saturday Peak Hour LOS
17	Rio Road-Junipero Street/13th Avenue-Ridgewood Road	All-Way Stop	City of Carmel	C	9.0	A	9.6	**A**	9.4	A

Notes:

1. Intersections 2, 4, 5, 6, 9, 10, 11, and 12 fall within the CVMP and are subject to CVMP LOS standards. Intersections under the jurisdiction of the City of Carmel are subject to Monterey County LOS standards.

2. LOS given in bold with a grey background indicates an exceedance of the applicable LOS standard.

Source: KHTE 2017

Cumulative Road Segment Operations

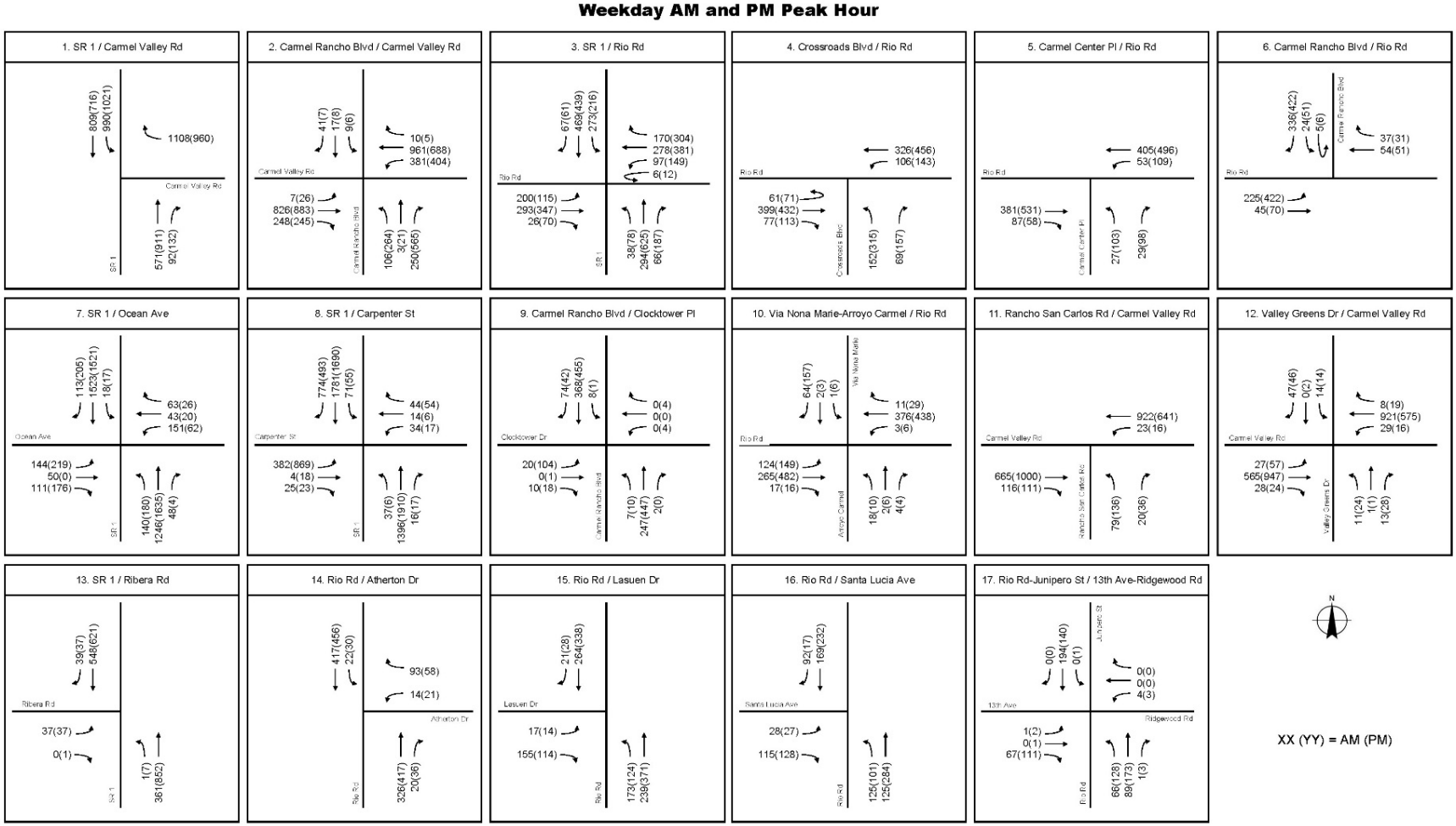
Road segment LOS are summarized in Table 39. Except for segments 6 and 7, the ADTs on the roadways included in the CVMP are projected to be below the CVMP ADT thresholds under cumulative conditions.

Based on the LOS standards, the following study road segments are projected to operate at unacceptable LOS during the weekday AM, PM, and/or Saturday peak hours:

- Segment 2 – SB Highway 1: Ocean Ave to Carmel Valley Road
- Segment 3 – NB & SB Highway 1: Carmel Valley Road to Rio Road
- Segment 4 – NB & SB Highway 1: Rio Road to Ribera Road
- Segment 6 – EB & WB Carmel Valley Road: Robinson Canyon Road to Schulte Road
- Segment 7 – EB & WB Carmel Valley Road: Schulte Road to Rancho San Carlos Road
- Segment 12 – WB Rio Road: Carmel Rancho Blvd to Highway 1
- Segment 13 – NB & SB Highway 1: Ribera Road to Highlands Inn

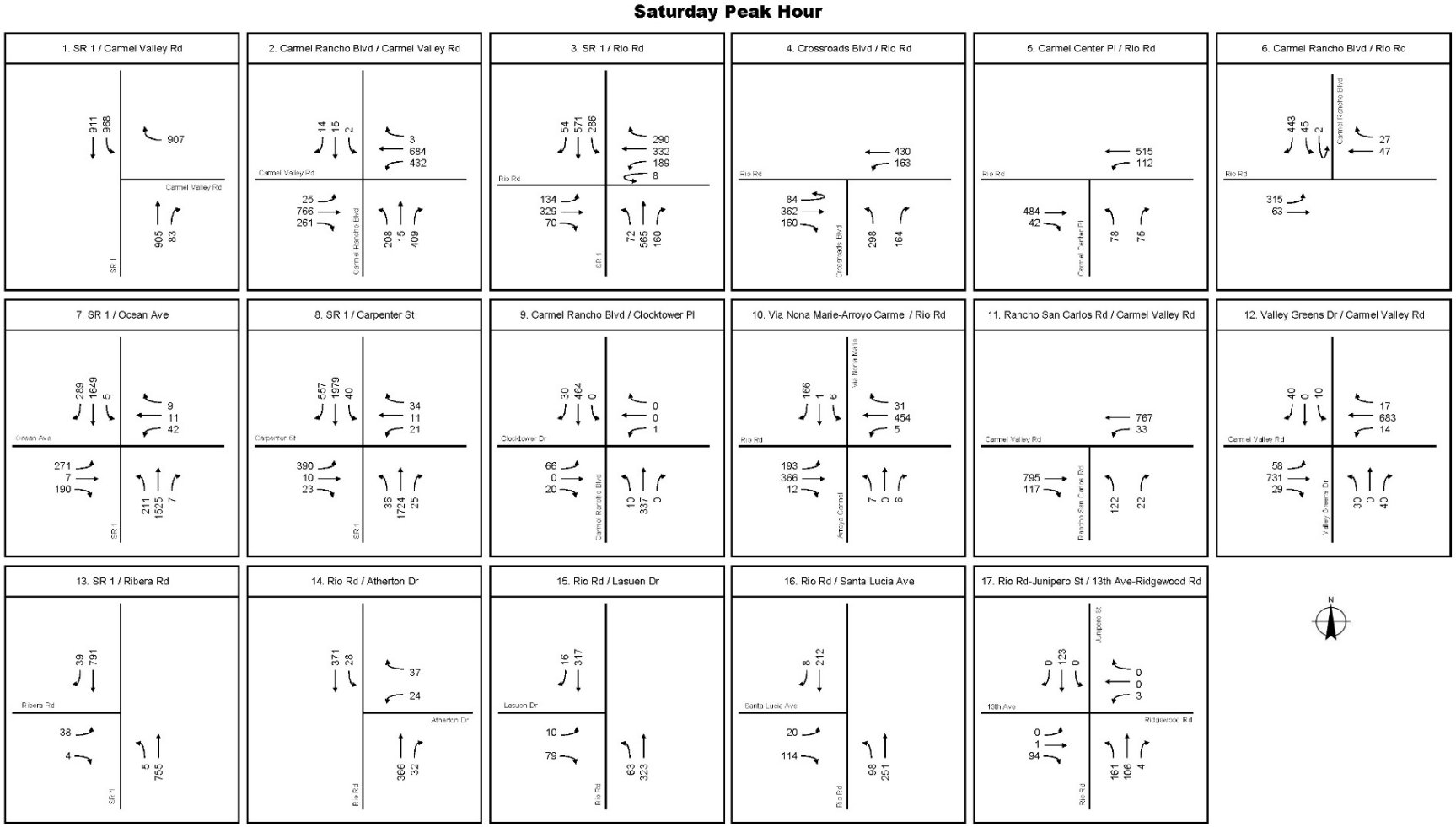
These road segments are projected to operate at an unacceptable LOS D, E, or F under cumulative traffic conditions.

Figure 31 Cumulative Conditions Weekday Peak Hour Volumes



Source: KHTE 2017

Figure 32 Cumulative Conditions Saturday Peak Hour Volumes



Source: KHTE 2017

Table 39 Cumulative Conditions Road Segment LOS

Segment		From	To	CVMP ADT Threshold	ADT	Direction	AM Peak Hour LOS	PM Peak Hour LOS	Saturday Peak Hour LOS
1	Highway 1	Carpenter St	Ocean Ave	N/A	N/A	NB	C	C	C
						SB	C	C	C
2	Highway 1	Ocean Ave	Carmel Valley Road	N/A	N/A	NB	C	C	C
						SB	**F**	**F**	**F**
3	Highway 1	Carmel Valley Road	Rio Road	N/A	N/A	NB	**D**	**E**	**E**
						SB	**D**	**D**	**E**
4	Highway 1	Rio Road	Ribera Road	N/A	N/A	NB	C	**E**	**D**
						SB	**D**	**D**	**D**
5	Rio Road	13th Ave	Highway 1	N/A	N/A	EB	B	B	B
						WB	B	B	B
6	Carmel Valley Road	Robinson Canyon Road	Schulte Road	15,499	**17,035**	EB	C	**E**	**E**
						WB	**E**	**D**	**D**
7	Carmel Valley Road	Schulte Road	Rancho San Carlos Road	16,340	**18,851**	EB	**D**	**E**	**E**
						WB	**E**	**D**	**E**
8	Carmel Valley Road	Rancho San Carlos Road	Rio Road	48,487	21,817	EB	A	B	A
						WB	A	**A**	A
9	Carmel Valley Road	Rio Road	Carmel Rancho Blvd	51,401	28,258	EB	B	B	B
						WB	C	B	A
10	Carmel Valley Road	Carmel Rancho Blvd	Highway 1	27,839	25,504	EB	B	B	A
						WB	B	A	A
11	Carmel Rancho Blvd	Carmel Valley Road	Rio Road	33,495	11,335	NB	A	A	A
						SB	A	B	B
12	Rio Road	Carmel Rancho Blvd	Highway 1	33,928	12,909	NB	C	C	C
						SB	**D**	**D**	**D**
13	Highway 1	Ribera Road	Highlands Inn	N/A	N/A	NB	C	**E**	**D**
						SB	**D**	D	**D**
14	Crossroads Blvd	Rio Road	Terminus	N/A	N/A	NB	C	C	C
						SB	C	C	C
15	Carmel Center Place	Rio Road	Terminus	N/A	N/A	NB	A	A	A
						SB	A	A	A

Notes: Entries given in bold with a grey background indicates an exceedance of the applicable LOS standard or CVMP ADT threshold.

Source: KHTE 2017

g. Regulatory Setting

This section includes a discussion of the applicable federal, state, and local laws, ordinances, regulations, and standards governing transportation and traffic, which must be adhered to before and during implementation of the proposed project.

State Senate Bill (SB) 743

California's SB 743 will eventually alter how transportation and traffic impacts are analyzed under State CEQA Guidelines. SB 743 requires the Office of Planning and Research to amend the *CEQA Guidelines* to provide an alternative to LOS as the metric for evaluating transportation impacts. However, because amendments required by SB 743 have not been adopted, this EIR was based on the existing *CEQA Guidelines* and therefore relies on the existing LOS criteria to evaluate potential transportation impacts.

Carmel Valley Traffic Impact Improvement Program

The Carmel Valley Traffic Improvement Program (CVTIP) includes a list of projects to relieve congestion and improve traffic operations on Carmel Valley Road. The County collects fees from new developments to contribute to these improvements. The traffic fees apply to projects within Carmel Valley and to projects in the Greater Carmel Valley Area that will add traffic to Carmel Valley Road. As stated in Section 18.60.030 of the County's municipal code, the fee amount is established by the Board of Supervisors by resolution.

TAMC Fee

The TAMC and its member jurisdictions have adopted a countywide, regional impact fee to cover the costs for studies and construction of many improvements throughout Monterey County. This impact fee, which went into effect on August 27, 2008, is applied to all new development within Monterey County. The governing document for the fee is the Regional Impact Fee Nexus Study Update, which was last updated in 2013 (TAMC 2013).

Monterey County General Plan

The 2010 Monterey County General Plan includes the following policies relevant to transportation and circulation:

- **Policy C-1.3.** Circulation improvements that mitigate Traffic Tier 1 direct on-site and off-site project impacts shall be constructed concurrently [as defined in subparagraph (a) only of the definition for "concurrency"] with new development. Off-site circulation improvements that mitigate Traffic Tier 2 or Traffic Tier 3 impacts either shall:
  a. Be constructed concurrently with new development, or
  b. A fair share payment pursuant to Policy C-1.8 (County Traffic Impact Fee), Policy C-1.11 (Regional Development Impact Fee), and/or other applicable traffic fee programs shall be made at the discretion of the County.
- **Policy C-1.4.** Notwithstanding Policy C-1.3, projects that are found to result in reducing a County road below the acceptable LOS standard shall not be allowed to proceed unless the construction of the development and its associated improvements are phased in a manner that will maintain the acceptable LOS for all affected County roads. Where the LOS of a County road impacted by a specific project currently operates below LOS D and is listed on

the CIFP as a high priority, Policy C-1.3 shall apply. Where the LOS of a County road impacted by a specific project currently operates below LOS D and is not listed on the CIFP as a high priority, development shall mitigate project impacts concurrently. The following are exempt from this Policy except that they shall be required to pay any applicable fair share fee pursuant to Policies C-1.8, C-1.11, and/or other applicable traffic fee programs:

a. First single-family dwelling on a lot of record;
b. Allowable non-habitable accessory structures on an existing lot of record;
c. Accessory units consistent with other policies and State Second Unit Housing law;
d. Any use in a non-residential designation for which a discretionary permit is not required or for which the traffic generated is equivalent to no more than that generated by a single family residence (10 ADT); and
e. Minimal use on a vacant lot in a non-residential designation sufficient to enable the owner to derive some economically viable use of the parcel.

- **Policy C-1.8.** Development proposed in cities and adjacent counties shall be carefully reviewed to assess the proposed development's impact on the County's circulation system. The County, in consultation with TAMC and Monterey County cities shall, within 18 months of adoption of the General Plan, develop a County Traffic Impact fee that addresses Tier 2 impacts of development in cities and unincorporated areas. From the time of adoption of the General Plan until the time of adoption of a County Traffic Impact Fee, the County shall impose an ad hoc fee on its applicants based upon a fair share traffic impact fee study.
- **Policy C-1.9.** All available public and private sources shall be used for the funding of road and highway development, improvement and maintenance.
- **Policy C-1.10.** The County, in coordination with TAMC and other affected agencies, shall continue efforts to improve traffic congestion at critical locations.
- **Policy C-1.11.** In addition to the County Traffic Impact Fee established in Policy C-1.8, the County shall require new development to pay a Regional Traffic Impact Fee developed collaboratively between TAMC, the County, and other local and state agencies to ensure a funding mechanism for regional transportation improvements mitigating Traffic Tier 3 impacts.

The CVMP, adopted in 2010 and amended February 2013, includes numerous policies related to circulation. The following policies apply to the project:

- **CV-2.3.** All new road work or major work on existing roads within the commercial core areas shall provide room for use of bicycles and separate pedestrian walkways. The County shall provide bicycle routes on the shoulders between development areas throughout the Carmel Valley.
- **CV-2.14.** New major developments with access adjacent to Carmel Valley Road shall be required to provide space for the transit buses to stop, the parking of cars, and facilities for the safe storage of bicycles.
- **CV-2.17(f).** The traffic standards (LOS as measured by peak hour conditions) for the CVMP Area shall be as follows:
  - Signalized Intersections – LOS of "C" is the acceptable condition.
  - Unsignalized Intersections – LOS of "F" or meeting of any traffic signal warrant are defined as unacceptable conditions.

- Carmel Valley Road Segment Operations:
  - a) LOS of "C" and ADT below its threshold specified in Policy CV-2.17(a) for Segments 1, 2, 8, 9, 10, 11, 12 and 13 is an acceptable condition;
  - b) LOS of "D" and ADT below its threshold specified in Policy CV-2.17(a) for Segments 3, 4, 5, 6, and 7 is an acceptable condition.

- Applicable segments from CV-2.17(a):
  - Segment 6. Carmel Valley Road (CVR) between Robinson Canyon Road and Schulte Road
  - Segment 7. CVR between Schulte Road and Rancho San Carlos Road
  - Segment 8. CVR between Rancho San Carlos Road and Rio Road
  - Segment 9. CVR between Rio Road and Carmel Rancho Boulevard
  - Segment 10. Carmel Valley Road from Carmel Rancho Boulevard to Highway 1
  - Segment 11. Carmel Rancho Boulevard between Carmel Valley Road and Rio Road
  - Segment 13. Rio Road between Carmel Rancho Boulevard and SR1

4.8.3 Impact Analysis

a. Methodology

Traffic Operation Evaluation Methodologies

The traffic study (Appendix G) used trip generation rates published by the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th Edition (2012) to estimate the trips that would be generated by the proposed project. The *Trip Generation Manual* is an industry-accepted tool for determining an estimated number of vehicles trips that would be generated based on particular land use types. The trip generation rate for the "Shopping Center" land use type (ITE land use 820) was used for this analysis. Given that the type and square footage of uses proposed for the Rio Ranch Marketplace shopping center is preliminary and subject to change, the ITE "Shopping Center" trip generation rate is appropriate for this project. The ITE "Shopping Center" land use only applies one trip generation rate for the shopping center rather than for each use, is a more conservative estimate of trip generation, and would allow flexibility to modify the mix of uses without being inconsistent with the traffic analysis (KHTE 2017). It was assumed in the traffic study that 15 percent of project trips would be pass-by trips (i.e., vehicles who happen to stop in while already traveling along Rio Road) and diverted linked trips (i.e., vehicles who were in the area already and changed their route by a block or two to patronize the site), and 10 percent would consist of trips to and from nearby existing retail uses.

Trip distribution is a process that determines in what proportion vehicles would travel between a project site and various destinations outside the project site. The process of trip assignment determines the various routes that vehicles would take from the project site to each destination using the calculated trip distribution. For this analysis, project trips were distributed along area roadways based on existing traffic volume data and land use patterns in the area, as shown below in Figure 33.

The trip distribution was combined with the trip generation to derive the project trip assignment. Project trip assignments, including for pass-by, linked trips, and trips to and from nearby retail uses, are provided in Exhibits 11 to 13, respectively, of the traffic study (Appendix G). It was also assumed that some existing traffic would be redistributed from the Via Nona Marie/ Rio Road intersection to the new project access point at the Crossroads Boulevard/ Rio Road intersection; trip redistribution

is shown in Exhibit 14 of the traffic study. Figure 34 and Figure 35 below show the net project trip assignments along area roadways for the weekday AM and PM peak hours and Saturday peak hour, respectively.

The trip assignment was added to the existing traffic volumes, background traffic volumes, and cumulative traffic volumes to create the traffic volumes that would occur under Existing Plus Project Conditions, Background Plus Project Conditions, and Cumulative Plus Project Conditions, respectively. As described in the traffic study, Existing Plus Project Conditions are traffic conditions with existing traffic volumes plus the additional trips generated by the project. Background Plus Project Conditions are the conditions when existing traffic volumes, traffic volumes from projects approved but not yet constructed, and trips generated by the proposed project are combined. Cumulative Plus Project Conditions is similar to Background Plus Project Conditions, but also includes traffic volumes from projects that have been proposed through submittal of an application, but have not yet been approved.

Level of Service Standards

As described above, intersection and road segment traffic operations were evaluated based on the LOS concept, and the LOS standard adopted by the jurisdiction within which the intersection is located. As described previously, LOS is a qualitative description of an intersection's operation, ranging from LOS A to LOS F. LOS "A" represents free flow un-congested traffic conditions. LOS "F" represents highly congested traffic conditions with what is commonly considered unacceptable delay to vehicles at intersections. The intermediate LOS represents incremental levels of congestion and delay between these two extremes.

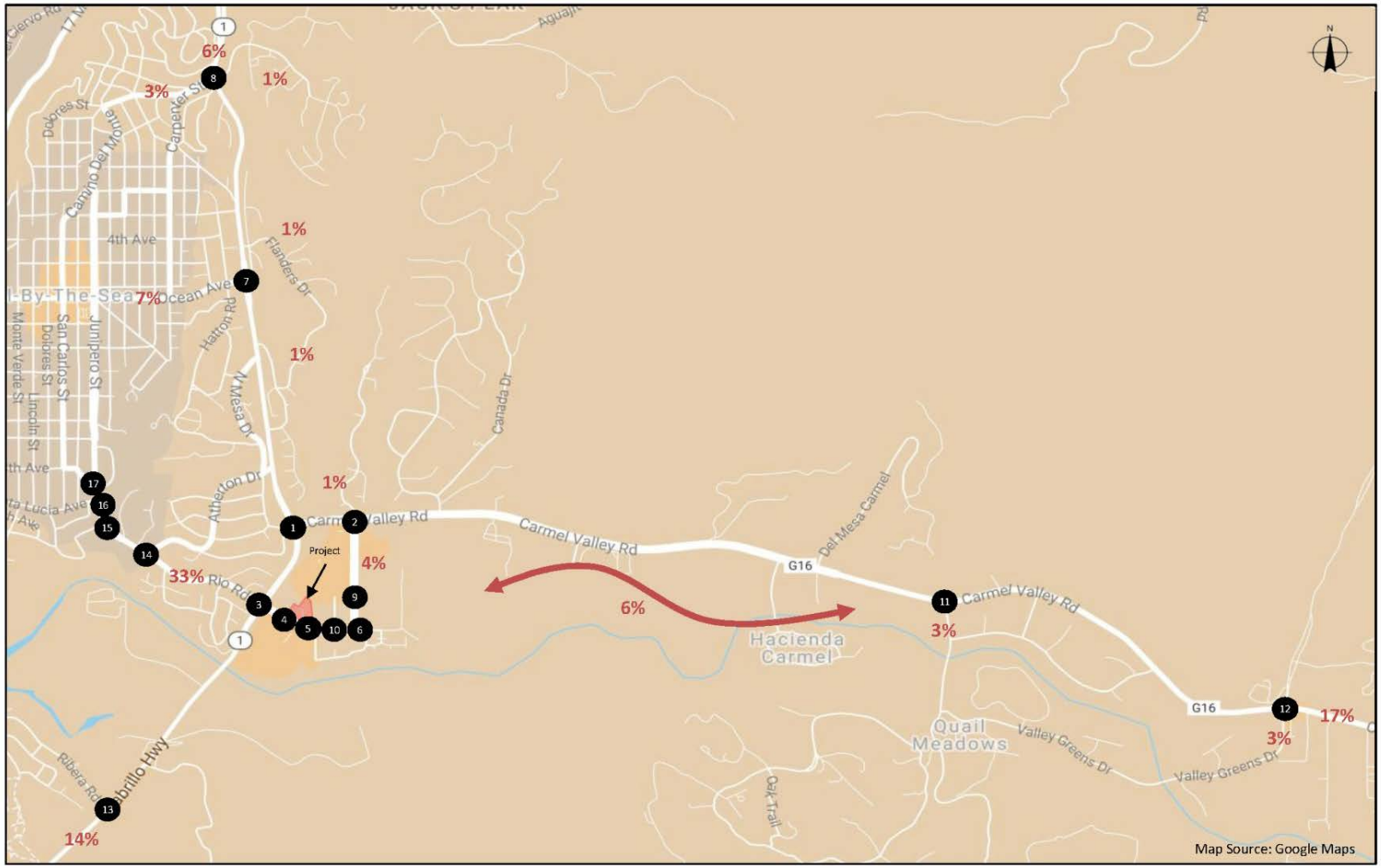
Arterial road segment operations are based on travel speed as a percentage of free flow speed, per Exhibit 17-2 of the 2010 HCM (KHTE 2017). Two-lane highway segment operations are based on percent time spent following (PTSF), per Exhibit 15-3 of the 2010 HCM. Multi-lane highway segment operations are based on density in passenger cars per mile per lane (pc/mi/ln) per Exhibit 14-4 of the 2010 HCM. LOS descriptions for arterial, two-lane highway, and multi-lane highway road segments are included as Appendix D of the traffic study (Appendix G). The CVMP also provides average daily traffic (ADT) volume thresholds for the study segments along Carmel Valley Road (segments 6 – 12), which are provided in Table 33.

The study area intersections and road segments, as listed in Section 4.8.2(c), fall under the jurisdiction of Monterey County, Caltrans, or the City of Carmel-by-the-Sea. In addition, Intersections 2, 4, 5, 6, 9, 10, 11, and 12 fall within the CVMP and are subject to CVMP LOS standards.

Monterey County

The Monterey County Public Works Department has established LOS D as the minimum acceptable LOS for signalized intersections and road segments in their jurisdiction. For un-signalized intersections, LOS E is considered the maximum acceptable LOS for the worst movement/approach. Improvements are warranted when the minor street approach operates at LOS F and any traffic control is warranted.

Figure 33 Project Trip Distribution



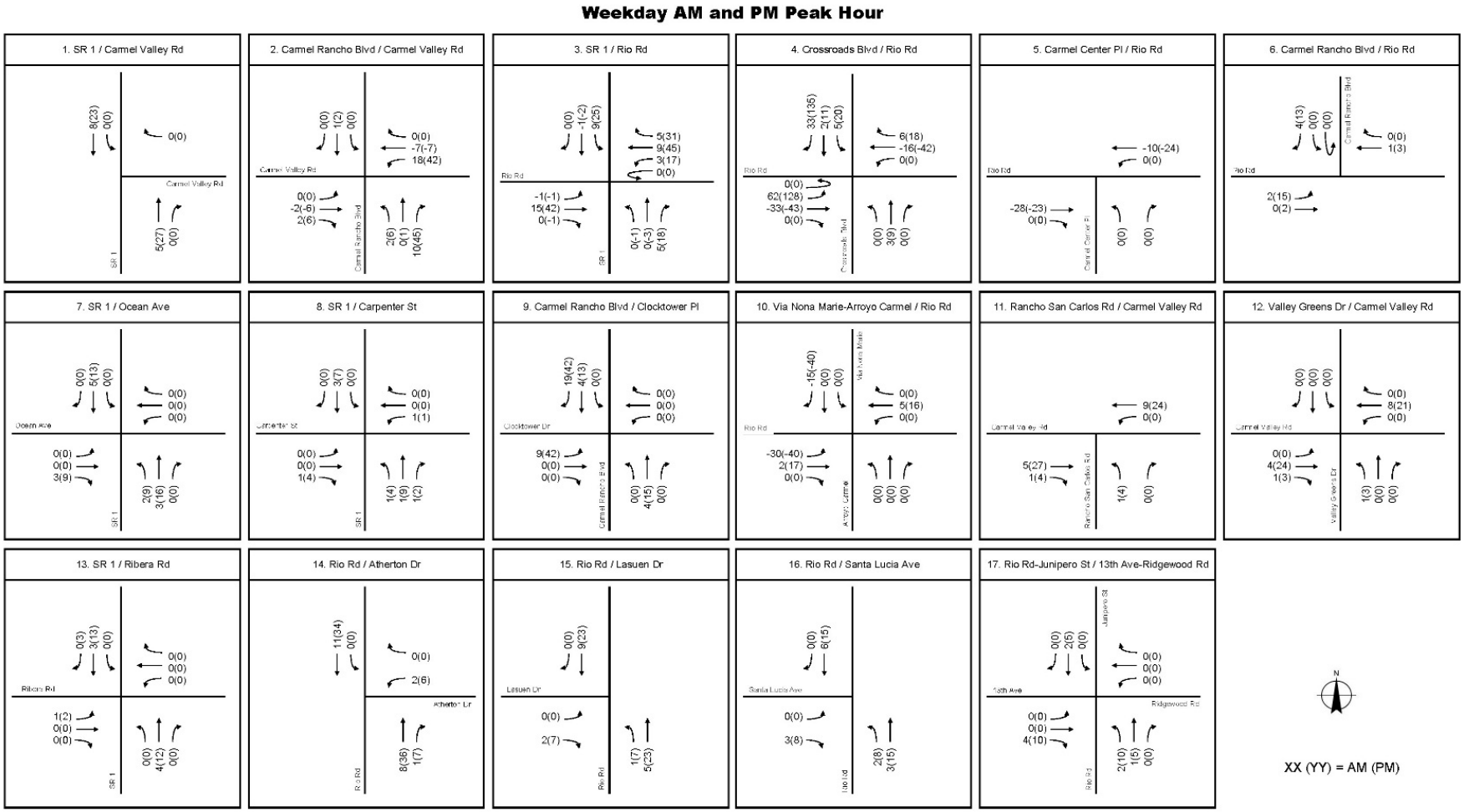
Legend

X Study Intersection #

X% Trip Distribution %

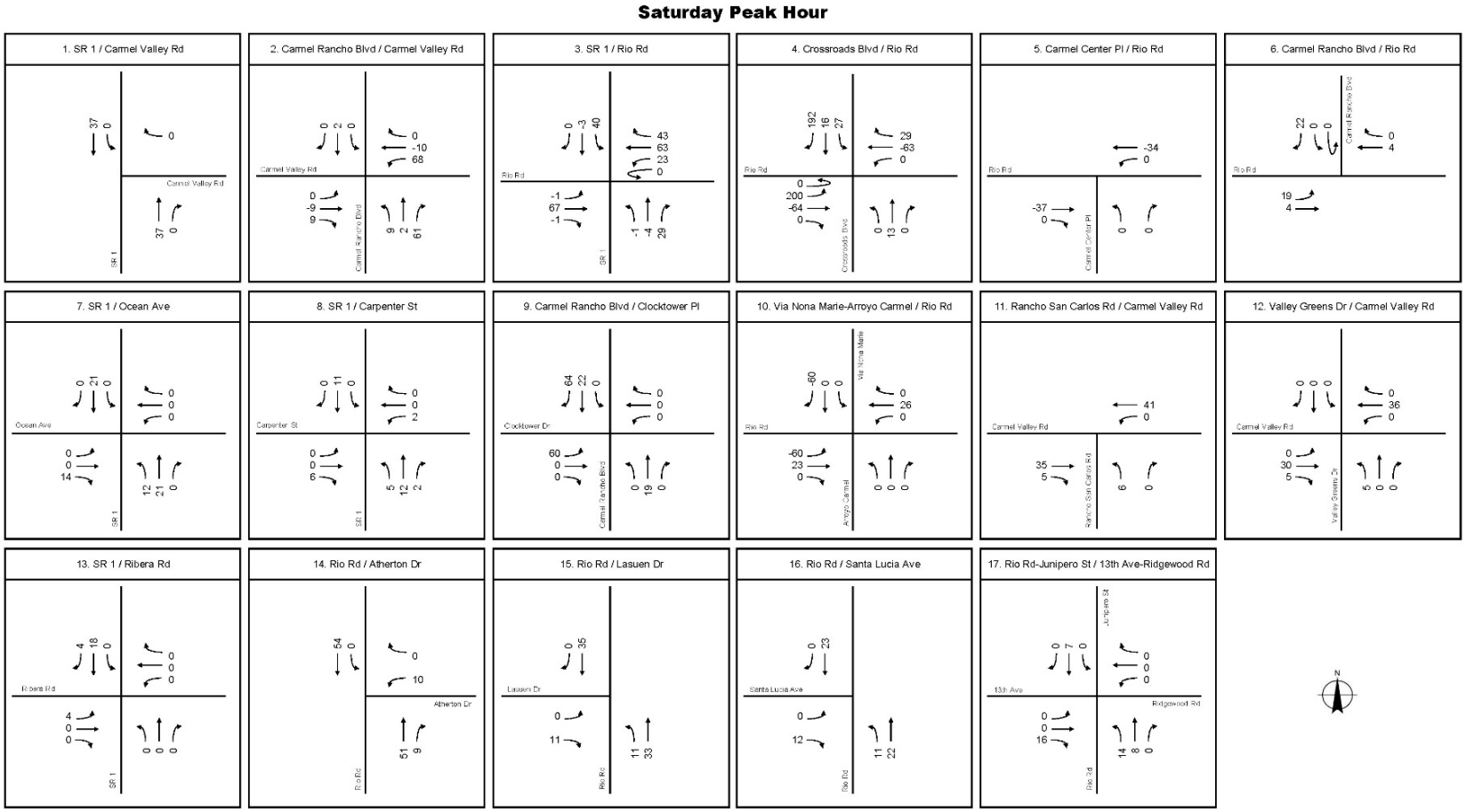
Source: KHTE 2017

Figure 34 Project Trip Assignment Weekday AM and PM Peak Hours



Source: KHTE 2017

Figure 35 Project Trip Assignment Saturday Peak Hour



Source: KHTE 2017

Carmel Valley Master Plan

Except for some road segments along Carmel Valley Road, the CVMP establishes LOS C as the minimum acceptable LOS for signalized roadways and intersections within Carmel Valley. Per CVMP Policy 2.18, LOS D has been established as the minimum acceptable LOS for study segments 6 and 7, and LOS C has been established as the minimum acceptable LOS for study segments 9, 10, 11 and 12.

City of Carmel-by-the-Sea

The LOS standard for the City of Carmel-by-the-Sea is LOS C.

Caltrans

Per the Caltrans "Guide for Preparation of Traffic Impact Studies" publication, "Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained." MOE refers to the measures of effectiveness which are used to describe the measures best suited for analyzing State highway facilities.

Significance Thresholds

Pursuant to Appendix G of the *State CEQA Guidelines,* impacts related to transportation and circulation would be potentially significant if the proposed project would:

1. Conflict with an applicable plan, ordinance, or policy establishing a measure of effectiveness for the performance of a 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
2. Conflict with an applicable congestion management program, including, but not limited to, LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways
3. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
5. Result in inadequate emergency access
6. Conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities

As explained more fully in Section 4.9, *Effects Found Not to be Significant*, implementation of the proposed project would not result in a change in air traffic patterns. Therefore, no further discussion of threshold 3 is included in this section. Further discussion of this issue can be found in Section 4.9, *Effects Found Not to Be Significant.* Thresholds 1, 2, 4, 5, and 6 are discussed below.

Traffic Impact Criteria

The study area falls within multiple jurisdictions and planning areas that set forth criteria for analyzing traffic impacts, including Monterey County and the CVMP. The impact criteria for the relevant jurisdictions and planning areas are listed below and have been applied to the analysis results.

Monterey County

A significant impact at a signalized study intersection is defined to occur under the following conditions:

- A significant impact would occur if an intersection operating at LOS A, B, C or D degrades to E or F. For intersections already operating at unacceptable LOS E, a significant impact would occur if a project adds 0.01 or more during peak hours to the critical movement's volume-to-capacity ratio. If the intersection is already operating at LOS F, any increase (one vehicle) in the critical movement's volume-to-capacity ratio is considered significant.

A significant impact at an unsignalized study intersection is defined to occur under the following conditions:

- A significant impact would occur if any traffic movement has LOS F or any traffic signal warrant is met.

A significant impact at a study road segment is defined to occur under the following conditions:

- A significant impact would occur if a roadway segment operating at LOS A through LOS D degrades to LOS E or F. If a segment is already operating at LOS E, any measurable degradation further into LOS E or decline to LOS F is considered significant. If a segment is already operating at LOS F, any increase during the peak hour (one vehicle) is considered significant.

Carmel Valley Master Plan (CVMP)

The Monterey County significance criteria were applied to the study intersections that are within the CVMP Area (intersections 2, 4, 5, 6, 9, 10, 11, & 12) as follows:

A significant impact at a signalized study intersection is defined to occur under the following conditions:

- A significant impact would occur if an intersection operating at LOS A, B or C degrades to LOS D, E or F. For intersections already operating at unacceptable level D or E, a significant impact would occur if a project adds 0.01 or more during peak hours to the critical movement's volume-to-capacity ratio. If the intersection is already operating at LOS F, any increase (one vehicle) in the critical movement's volume-to-capacity ratio is considered significant.

A significant impact at an unsignalized study intersection is defined to occur under the following conditions:

- An impact would occur if an all-way stop controlled or roundabout controlled intersection, based on the average delay, operates at LOS F or any traffic signal warrant is met.
- An impact would occur if a two-way stop controlled intersection, based on the worst approach delay, operates at LOS F or any traffic signal warrant is met.

A significant impact on a study road segment would occur if operations degrade from LOS C or better to LOS D, E or F (segments 8, 9, 10, 11, 12) or if operations degrade from LOS D or better to LOS E or F (segments 6, 7); or if project traffic worsens the LOS of a segment operating at LOS E; or if project traffic is added to a segment operating at LOS F; or if the CVMP ADT threshold is exceeded.

Caltrans

Caltrans perceives an impact when there is any degradation in the performance measure below the cusp of C/D. If a facility is currently operating at or below LOS D, then any trips added represent a potential impact, and the performance measure should be brought back to predevelopment conditions. While a single trip added to a degraded facility is not usually reflected in the performance measure, Caltrans reserves the ability to consider a single trip as an impact. Any increase in delay if the facility is operating at LOS D or below is considered an impact in this analysis.

b. Projects Impacts and Mitigation Measures

Threshold 1:	Conflict with an applicable plan, ordinance, or policy establishing a measure of effectiveness for the performance of a circulation system, taking into account all modes of transportation, including mass transit and nonmotorized 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
Threshold 2:	Conflict with an applicable congestion management program, including, but not limited to, LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways

Impact T-1 PROJECT-GENERATED TRAFFIC WOULD CAUSE LEVELS OF SERVICE AT TWO STUDY INTERSECTIONS AND SIX ROAD SEGMENTS TO SIGNIFICANTLY DEGRADE RELATIVE TO EXISTING CONDITIONS. THIS IMPACT WOULD BE SIGNIFICANT AND UNAVOIDABLE.

As shown in Table 40, the proposed project is estimated to generate 3,883 gross trips, with 2,913 primary trips, 582 pass-by and diverted linked trips, and 388 trips to and from existing retail. The project would generate 69 new trips in the AM peak hour, 252 trips during the PM peak hour, and 375 new trips during the Saturday peak hour.

Intersection Operations

The proposed project traffic volumes were added to the existing traffic volumes to obtain existing plus project traffic volumes. Intersection LOS is summarized in Table 41. Existing plus project traffic volumes for the weekday AM and PM peak hours and Saturday peak hour are presented in Figure 36 and Figure 37, respectively.

Based on the LOS standards described in Section 4.8.2(b), Significance Thresholds, the following intersections are projected to operate at an unacceptable LOS under existing plus project conditions:

- Intersection 3 – Highway 1/Rio Road
- Intersection 8 – Highway 1 /Carpenter Street

Table 40 Project Trip Generation Volumes

Land Use Category	ITE Code	Rate Unit (sf)	Project Size (sf)	Daily Trips	AM Peak Hour				PM Peak Hour				Saturday Peak Hour			
					Peak Hour Trips	% of ADT	In %	Out %	Peak Hour Trips	% of ADT	In %	Out %	Peak Hour Trips	% of ADT	In %	Out %
Shopping Center	820	1,000	42,310	3,883	92	2	57	35	337	9	162	175	5,374	500	260	240
Pass-by and Diverted Linked Trips (15% of Gross Trips)				582	14	2	9	5	51	9	24	27	806	75	39	36
Trips to and from Existing Retail (10% of Gross Trips)				388	9	2	6	3	34	9	16	18	537	50	26	24
Primary Trips (75% of Gross Trips)				2,913	69	2	42	27	252	9	122	130	4,031	375	195	180

Source: KHTE 2017

Table 41 Existing Plus Project Intersection LOS

Intersection		Control Type	Jurisdiction	LOS Standard[1]	AM Peak Hour Delay (sec)	AM Peak Hour LOS	PM Peak Hour Delay (sec)	PM Peak Hour LOS	Saturday Peak Hour Delay (sec)	Saturday Peak Hour LOS
1	Highway 1/ Carmel Valley Road	Signal	Caltrans	C/D	11.6	B	13.8	B	12.0	B
2	Carmel Rancho Blvd/Carmel Valley Road	Signal	Monterey County	C	21.8	C	27.0	C	20.4	C
3	Highway 1/ Rio Road	Signal	Caltrans	C/D	37.9	**D**	57.7	**E**	73.0	**E**
	With RTP improvements and 2nd westbound left lane				26.1	C	31.3	**C**	32.9	**C**
4	Crossroads Blvd/Rio Road	Signal	Monterey County	C	14.1	B	20.6	C	25.0	C
5	Carmel Center Place/Rio Road	Signal	Monterey County	C	7.3	A	10.5	B	14.2	B
6	Carmel Rancho Blvd/Rio Road	Two-Way Stop	Monterey County	C or E	11.1	B	18.5	C	16.4	C
7	Highway 1/ Ocean Ave	Signal	Caltrans	C/D	30.1	C	27.3	C	28.3	C
8	Highway 1/Carpenter St	Signal	Caltrans	C/D	22.4	C	37.7	**D**	20.6	C
	With NB RT Lane				22.3	C	37.0	**D**	20.4	C
	With 3rd NBT									
9	Carmel Rancho Blvd/Clocktower Place	Two-Way Stop	Monterey County	E	14.7	B	32.1	D	26.0	D
10	Via Nona Marie/Rio Road	Two-Way Stop	Monterey County	E	17.1	C	25.6	D	18.4	C
11	Rancho San Carlos Boulevard/ Carmel Valley Road	Signal	Monterey County	C	9.6	A	10.7	B	9.1	A
12	Valley Greens Drive/Carmel Valley Road	Two-Way Stop	Monterey County	C or E	43.2	E	45.5	E	34.0	D
13	Highway 1/Ribera Road	One-Way Stop	Caltrans	E	16.4	C	27.6	D	30.8	D

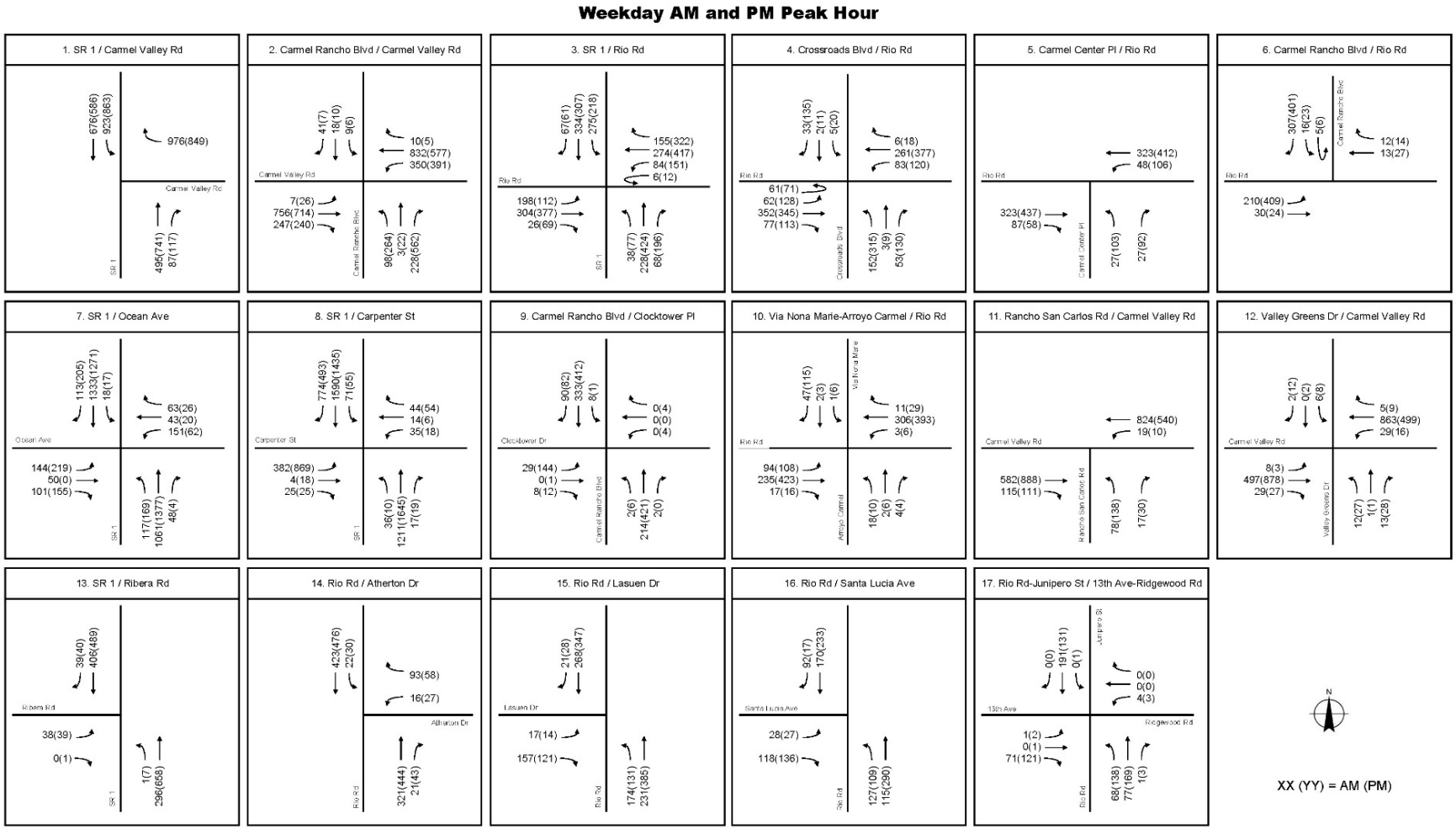
Intersection		Control Type	Jurisdiction	LOS Standard[1]	AM Peak Hour Delay (sec)	AM Peak Hour LOS	PM Peak Hour Delay (sec)	PM Peak Hour LOS	Saturday Peak Hour Delay (sec)	Saturday Peak Hour LOS
14	Rio Road/ Atherton Drive	One-Way Stop	Monterey County and City of Carmel	E	15.3	C	16.9	C	16.2	C
15	Rio Road/Lasuen Drive	One-Way Stop	City of Carmel	E	17.3	C	14.3	B	12.7	B
16	Rio Road/Santa Lucia Avenue	One-Way Stop	City of Carmel	E	13.1	B	13.0	B	12.4	B
17	Rio Road-Junipero Street/13th Avenue-Ridgewood Road	All-Way Stop	City of Carmel	C	8.9	A	9.8	A	9.5	A

[1] Intersections 2, 4, 5, 6, 9, 10, 11, and 12 fall within the CVMP and are subject to CVMP LOS standards.

[2] LOS given in bold with a grey background indicates an exceedance of the applicable LOS standard.

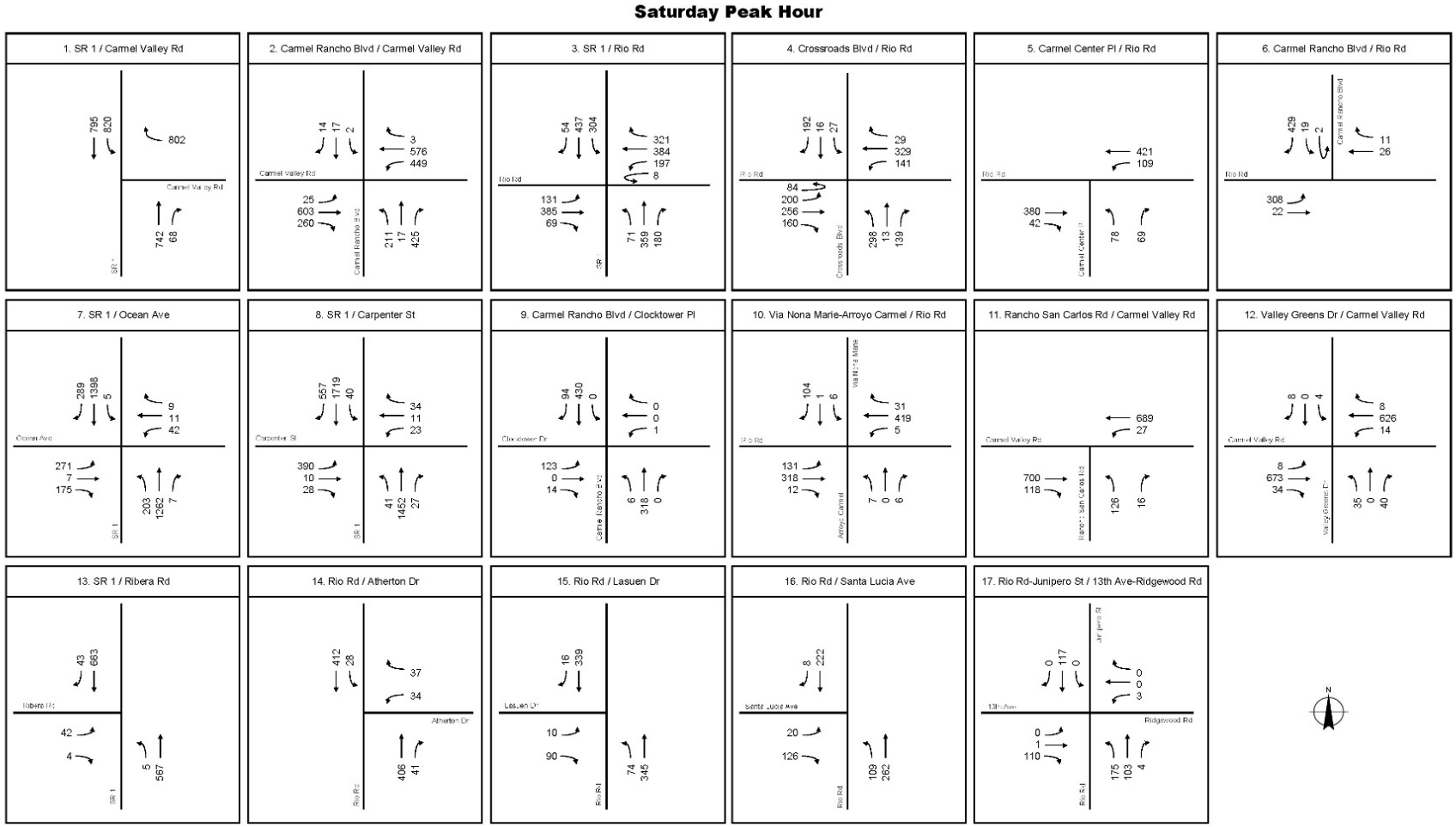
Source: KHTE 2017

Figure 36 Existing Plus Project Weekday AM and PM Peak Hour Volumes



Source: KHTE 2017

Figure 37 Existing Plus Project Saturday Peak Hour Volumes



Source: KHTE 2017

Road Segment Operations

Road segment LOS are summarized in Table 42.

As shown in Table 42, the ADTs on the Carmel Valley Road study segments are projected to be below the CVMP ADT thresholds under existing plus project conditions, except for Segment 7. Based on the LOS standards described in Section 4.8.2(b), Significance Thresholds, the following road segments are projected to operate at unacceptable LOS under existing plus project conditions:

- Segment 2 – SB Highway 1: Ocean Ave to Carmel Valley Road
- Segment 3 – NB & SB SR Highway 1: Carmel Valley Road to Rio Road
- Segment 4 – NB & SB SR Highway 1: Rio Road to Ribera Road
- Segment 6 – EB & WB Carmel Valley Road: Robinson Canyon Road to Schulte Road
- Segment 7 – EB & WB Carmel Valley Road: Schulte Road to Rancho San Carlos Road
- Segment 12 – EB & WB Rio Road: Carmel Rancho Blvd to SR Highway 1
- Segment 13 – NB & SB SR Highway 1: Ribera Road to Highlands Inn

Table 42 Existing Plus Project Road Segment LOS

Segment		From	To	CVMP ADT Threshold	ADT	Direction	AM Peak Hour LOS	PM Peak Hour LOS	Saturday Peak Hour LOS
1	Highway 1	Carpenter St	Ocean Ave	N/A	N/A	NB	B	C	C
						SB	C	B	C
2	Highway 1	Ocean Ave	Carmel Valley Road	N/A	N/A	NB	C	C	C
						SB	**F**	**F**	**F**
3	Highway 1	Carmel Valley Road	Rio Road	N/A	N/A	NB	**D**	**E**	**E**
						SB	**D**	**D**	**D**
4	Highway 1	Rio Road	Ribera Road	N/A	N/A	NB	C	**D**	**D**
						SB	**D**	**D**	**D**
5	Rio Road	13th Ave	Highway 1	N/A	N/A	EB	B	B	B
						WB	B	B	B
6	Carmel Valley Road	Robinson Canyon Road	Schulte Road	15,499	15,436	EB	C	**E**	**D**
						WB	**E**	C	**D**
7	Carmel Valley Road	Schulte Road	Rancho San Carlos Road	16,340	**17,209**	EB	**D**	**E**	**D**
						WB	**E**	**D**	**E**
8	Carmel Valley Road	Rancho San Carlos Road	Rio Road	48,487	19,797	EB	A	A	A
						WB	A	A	A
9	Carmel Valley Road	Rio Road	Carmel Rancho Blvd	51,401	25,411	EB	A	B	A
						WB	B	A	A
10	Carmel Valley Road	Carmel Rancho Blvd	Highway 1	27,839	22,654	EB	A	A	A
						WB	B	A	A
11	Carmel Rancho Blvd	Carmel Valley Road	Rio Road	33,495	11,310	NB	A	A	A
						SB	A	B	B
12	Rio Road	Carmel Rancho Blvd	Highway 1	33,928	14,150	NB	C	**D**	C
						SB	**D**	**D**	**D**
13	Highway 1	Ribera Road	Highlands Inn	N/A	N/A	NB	C	**D**	**D**
						SB	**D**	**D**	**D**
14	Crossroads Blvd	Rio Road	Terminus	N/A	N/A	NB	B	B	B
						SB	B	B	B
15	Carmel Center Place	Rio Road	Terminus	N/A	N/A	NB	A	A	A
						SB	A	A	A

Notes: Entries given in bold with a grey background indicates an exceedance of the applicable LOS standard or CVMP ADT threshold.

Source: KHTE 2017

Project Impacts

The project would have a potentially significant impact to the following study intersections:

- **Intersection 3 – Highway 1 /Rio Road (Caltrans).** Under existing traffic conditions, this intersection operates at LOS C, D, and E during the AM, PM, and Saturday midday peak hours, respectively. Under existing plus project conditions, it would operate at LOS D, E, and E, respectively. Based on Caltrans impact criteria, the project would have a potentially significant impact during the weekday AM, PM, and Saturday peak hours.
- **Intersection 8 – Highway 1/Carpenter Street (Caltrans).** This intersection would operate at an LOS D during the PM peak hour under existing conditions and project-generated traffic would add a delay of 0.6 second. Based on Caltrans impact criteria, the project would have a potentially significant impact during the weekday PM peak hour.

The project would have a potentially significant impact to the following study road segments:

- **Segment 2 – South Bound Highway 1 between Ocean Ave and Carmel Valley Road (Caltrans).** Under existing traffic conditions, this segment operates at LOS F in the southbound direction during all three study peak hours. Project-generated traffic would increase road segment volumes during all three peak hours. Based on Caltrans impact criteria, the project would have a potentially significant impact during all three study peak hours.
- **Segment 3 – Highway 1 between Carmel Valley Road and Rio Road (Caltrans).** Under existing traffic conditions, this segment operates at LOS D and E in the northbound direction and LOS D in the southbound direction during the peak hours. Under existing plus project conditions, it would continue to operate at LOS D and E, but the percent time spent following (PTSF) measure of effectiveness would increase. Based on Caltrans impact criteria, the project would have a potentially significant impact during peak hours.
- **Segment 4 – Highway 1 between Rio Road and Ribera Road (Caltrans).** Under existing traffic conditions, this segment operates at LOS D in the northbound and southbound directions during the peak hours. Under existing plus project conditions, it would continue to operate at LOS D, but the percent time spent following (PTSF) measure of effectiveness would increase. Based on Caltrans impact criteria, the project would have a potentially significant impact during peak hours.
- **Segment 7 – Carmel Valley Road between Schulte Road and Rancho San Carlos Road (CVMP).** Under existing traffic conditions, the ADT volumes on this segment exceed the CVMP ADT threshold, and it operates at LOS D and E in the eastbound and westbound directions during the peak hours. Under existing plus project conditions, it would continue to operate at LOS D and E during the weekday AM and PM peak hours. This segment would degrade from LOS D to LOS E in the westbound direction during the Saturday peak hour. Based on the CVMP impact criteria, the project would potentially impact this segment on an ADT basis and in the westbound direction during the Saturday peak hour.
- **Segment 12 – Rio Road between Carmel Rancho Blvd and Highway 1 (CVMP).** Under existing traffic conditions, this segment operates at LOS D in the westbound direction during the peak hours. Under existing plus project conditions, it would continue to operate at LOS D in the westbound direction. This segment would degrade from LOS C to LOS D in the eastbound direction during the weekday PM peak hour. Based on the CVMP impact criteria, the project would potentially impact this segment in the eastbound direction during the weekday PM peak hour.

- **Segment 13 – Highway 1 between Ribera Road and Highlands Inn (Caltrans).** Under existing traffic conditions, this segment operates at LOS D in the northbound and southbound directions during the peak hours. Under existing plus project conditions, it would continue to operate at LOS D, but the percent time spent following (PTSF) measure of effectiveness would increase. Based on Caltrans impact criteria, the project would have a potentially significant impact during peak hours.

Existing Plus Project Conditions Summary

Table 43 summarizes the project's traffic impacts relative to existing conditions and potential Mitigation Measures provided in the traffic study to address impacted roadways. As indicated in the table, all roadways that would operate at unacceptable levels with the project already operate at unacceptable levels under existing conditions. Two intersections and six road segments would be further degraded to a potentially significant degree by the project.

Table 43 Existing Conditions: Project Impacts to Degraded Roadways and Potential Mitigation

Study Intersection/ Road Segments	Unacceptable LOS Under Existing Conditions	Unacceptable LOS Under Existing + Project	Potentially Significant Project Impact	Potential Mitigation Provided in Traffic Study
Intersection 3 – Highway 1/ Rio Road (Caltrans)	X	X	X	TAMC planned improvements at the Highway 1/Rio Road intersection include converting the northbound Highway 1 right-turn lane to a shared through/right-turn lane, and an additional southbound through lane. These improvements, in addition to a second westbound left-turn lane, would result in acceptable operations at this intersection under existing plus project traffic conditions.
Intersection 8 – Highway 1/ Carpenter Street (Caltrans)	X	X	X	The addition of a dedicated northbound SR 1 right-turn lane would improve operations to better than pre-project conditions. This improvement is not planned or funded.
Segment 2 – SB Highway 1: Ocean Ave to Carmel Valley Rd (Caltrans)	X	X	X	The construction of a second southbound lane on SR 1 between Ocean Avenue and Carmel Valley Road would result in acceptable traffic operations. However, this improvement is not planned or funded.
Segment 3 – NB & SB Highway 1: Carmel Valley Rd to Rio Rd (Caltrans)	X	X	X	TAMC planned improvements at the Highway 1/Rio Road intersection include converting the northbound Highway 1 right-turn lane to a shared through/right-turn lane, and an additional southbound through lane. This would improve traffic operations to an acceptable level.

Study Intersection/ Road Segments	Unacceptable LOS Under Existing Conditions	Unacceptable LOS Under Existing + Project	Potentially Significant Project Impact	Potential Mitigation Provided in Traffic Study
Segment 4 – NB & SB Highway 1: Rio Road to Ribera Road (Caltrans)	X	X	X	Widening this segment to four lanes would improve operations to an acceptable level. However, this improvement is not planned or funded. It also would not be consistent with California Coastal Act Policy 30254 which states that "it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road."
Segment 6 – EB & WB Carmel Valley Rd: Robinson Canyon Rd to Schulte Rd (CVMP)	X	X		
Segment 7 – EB & WB Carmel Valley Rd: Schulte Rd to Rancho San Carlos Rd (CVMP)	X	X	X	Widening this segment to two lanes in each direction would result in acceptable traffic operations. However, this improvement is not planned or funded.
Segment 12 – WB Rio Road: Carmel Rancho Blvd to Highway 1 (CVMP)	X	X	X	The construction of a third eastbound lane on Rio Road between Carmel Rancho Boulevard and SR 1 would result in acceptable traffic operations. However, this improvement is not planned or funded. Traffic signal optimization along Rio Road, including the SR 1 intersection, will partially mitigate this impact. However, this improvement is not planned or funded.
Segment 13 – NB & SB Highway 1: Ribera Rd to Highlands Inn (Caltrans)	X	X	X	Widening this segment to four lanes would improve operations to an acceptable level. However, this improvement is not planned or funded. It also would not be consistent with California Coastal Act Policy 30254 which states that "it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road."

Source: KHTE 2017

Mitigation Measures

Based on the impact analysis in the traffic study summarized above, two intersections and six roadway segments require mitigation under existing plus project conditions.

Planned Improvements

The TAMC Regional Transportation Plan (RTP) includes a list of projects to improve traffic operations within the project study area, including the following:

- The construction of a northbound climbing lane on Highway 1 between Rio Road and Carmel Valley Road and improvements at the Highway 1 /Rio Road intersection. The planned improvements at the Highway 1/ Rio Road intersection include converting the northbound right-turn lane to a shared through/right-turn lane, and an additional southbound through lane.

The project applicant would be responsible for a fair share contribution towards funding of this improvement, which it would contribute through payment of the TAMC impact fee.

Unplanned Improvements

As stated in Table 43, there are no additional planned or funded improvements that would mitigate project impacts to the study intersections and road segments. Thus, there is no mechanism into which the applicant could pay a fair share to ensure these improvements are constructed. Furthermore, improvements to Intersection 8 and Segments 2, 3, 4, and 13 would be within Caltrans jurisdiction, and would therefore be beyond the control of the project applicant and/or the County of Monterey. For these reasons, this traffic study-identified mitigation is considered infeasible and is not included herein.

T-1 Intersection 3: Highway 1/Rio Road Improvements

Concurrent with the development of the shopping center, the developer shall lengthen the existing eastbound left-turn lane at Rio Road and Crossroads Boulevard, which would provide access to the project's main entrance, from 170 feet (130 feet of striping) to approximately 265 feet. Extending the length of the existing left turn lane will require the existing 265-foot westbound left turn lane onto southbound Highway 1 to be shortened by an equal 95 feet. In addition, Caltrans and the TAMC are completing the design of a second northbound lane on Highway 1 that will widen Highway 1 by about 30 feet to the east. This will also reduce the length of the westbound Rio Road left turn lane by an equivalent amount. The result will be that the left turn lane will be shortened by a total of 125 feet to about 140 feet, assuming a 60-foot bay taper separating the eastbound left turn lane into the Rio Ranch Shopping Center and the westbound left turn lane onto southbound Highway 1. Consequently, the developer shall also add a second Rio Road westbound left-turn lane onto Highway 1. This will require a 90-foot bay taper, resulting in two left turn lanes each with a length of about 115 feet. The addition of the second left turn lane will require widening Rio Road 11 feet to the south between Highway 1 and the westerly Crossroads driveway, located about 170 feet east of Highway 1. A transition shall be provided to match the existing Rio Road southerly curb line on the east side of the middle Crossroads Shopping Center driveway about 250 feet to the east. Modifications along Rio Road will need to be coordinated with Caltrans and TAMC.

MONITORING ACTION

Prior to issuance of grading or building permits, the applicant shall obtain all required approvals for road improvements from Caltrans and TAMC. Evidence of the approval shall be submitted to the RMA-Public Works. The required roadway improvements shall be installed prior to occupancy or final of building permits, whichever occurs first.

Significance After Mitigation

Implementation of MM T-1(a) along with planned improvements in the TAMC RTP would eliminate the project's impacts to Intersection 3 in the northbound direction, as well as Segment 3 under existing plus project conditions. However, the construction of these planned improvements is dependent on STIP funding, which is not guaranteed at this time. Participation in funding these improvements – as is required through payment of TAMC impact fees – would partially reduce impacts. However, because complete funding cannot be guaranteed and timing of the planned improvements cannot be assured, impacts would remain significant and unavoidable. As discussed above, improvements to Intersection 8 (Highway 1/Carpenter Street), Segments 2 (Highway 1: Ocean Avenue to Carmel Valley Road), 4 (Highway 1: Rio Road to Ribera Road), 7 (Carmel Valley Road: Schulte Road to Rancho San Carlos Road), 12 (Rio Road: Carmel Rancho Boulevard to Highway 1), and 13 (Highway 1) would be infeasible because there is no available mechanism for the project to fund these improvements; they are not included in the TAMC or Carmel Valley Traffic Improvement Program (CVTIP) project list. Impacts to these intersections and road segments would remain significant and unavoidable.

To summarize, project impacts to the following intersections and road segments would remain significant and unavoidable under existing plus project conditions:

- Intersection 3 – Highway 1 /Rio Road
- Intersection 8 – Highway 1/Carpenter Street
- Segment 2 – Southbound Highway 1: Ocean Ave to Carmel Valley Road
- Segment 3 – Highway 1: Carmel Valley Road to Rio Road
- Segment 4 – Highway 1: Rio Road to Ribera Road
- Segment 7 – Carmel Valley Road: Schulte Road to Rancho San Carlos Road
- Segment 12 – Rio Road: Carmel Rancho Blvd to Highway 1
- Segment 13 – Highway 1: Ribera Road to Highlands Inn

Threshold 1:	Conflict with an applicable plan, ordinance, or policy establishing a measure of effectiveness for the performance of a circulation system, taking into account all modes of transportation, including mass transit and nonmotorized 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
Threshold 2:	Conflict with an applicable congestion management program, including, but not limited to, LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways

Impact T-2 PROJECT-GENERATED TRAFFIC WOULD CAUSE LEVELS OF SERVICES AT FOUR STUDY INTERSECTIONS AND SEVEN ROAD SEGMENTS TO SIGNIFICANTLY DEGRADE RELATIVE TO BACKGROUND CONDITIONS. THIS IMPACT WOULD BE SIGNIFICANT AND UNAVOIDABLE.

Intersection Operations

The proposed project traffic assignments were added to the background traffic volumes to obtain background plus project traffic volumes. Intersection LOS are summarized in Table 44. Background plus project traffic volumes for the weekday AM and PM peak hours and Saturday peak hour are presented in Figure 38 and Figure 39, respectively.

Based on the LOS standards described in Section 4.17.2(b) (Methodology and Significance Thresholds), the following intersections are projected to operate at unacceptable LOS under background plus project conditions:

- Intersection 2 – Carmel Rancho Boulevard/Carmel Valley Road
- Intersection 3 – SR 1/Rio Road
- Intersection 8 – SR 1/Carpenter Street
- Intersection 12 – Valley Greens Drive/Carmel Valley Road

Table 44 Background Plus Project Intersection LOS

Intersection		Control Type	Jurisdiction	LOS Standard[1]	AM Peak Hour		PM Peak Hour		Saturday Peak Hour	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	Highway 1/Carmel Valley Road	Signal	Caltrans	C/D	13.2	B	16.1	B	13.7	B
2	Carmel Rancho Blvd/Carmel Valley Road	Signal	Monterey County	C	25.7	C	37.4	**D**	24.2	C
	With eastbound right turn only				24.7	C	35.6	**D**	22.7	C
3	Highway 1/ Rio Road	Signal	Caltrans	C/D	42.8	**D**	61.6	**E**	77.3	**E**
	With RTP improvements and 2nd westbound left lane				26.3	C	32.9	**C**	33.7	**C**
4	Crossroads Blvd/Rio Road	Signal	Monterey County	C	14.6	B	20.7	C	25.5	C
5	Carmel Center Place/Rio Road	Signal	Monterey County	C	5.9	A	10.2	B	13.9	B
6	Carmel Rancho Blvd/Rio Road	Two-Way Stop	Monterey County	C or E	11.8	B	21.5	C	18.7	C
7	Highway 1/Ocean Ave	Signal	Caltrans	C/D	33.1	C	29.1	C	32.9	C
8	Highway 1/Carpenter St	Signal	Caltrans	C/D	23.5	C	40.5	**D**	22.4	C
	With 3rd northbound through lane				22.5	C	30.9	**C**	20.8	C
9	Carmel Rancho Blvd/Clocktower Place	Two-Way Stop	Monterey County	E	15.4	C	37.0	E	29.1	D
10	Via Nona Marie/Rio Road	Two-Way Stop	Monterey County	E	17.7	C	27.4	D	19.3	C
11	Rancho San Carlos Boulevard/Carmel Valley Road	Signal	Monterey County	C	9.6	A	12.2	B	9.7	A
12	Valley Greens Drive/Carmel Valley Road	Two-Way Stop	Monterey County	C or E	51.1	F	97.9	**F**	62.9	F
	With roundabout				8.0	A	8.7	**A**	7.6	A

Intersection		Control Type	Jurisdiction	LOS Standard[1]	AM Peak Hour		PM Peak Hour		Saturday Peak Hour	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
13	Highway 1/Ribera Road	One-Way Stop	Caltrans	E	18.8	C	28.3	D	31.6	D
14	Rio Road/Atherton Drive	One-Way Stop	Monterey County and City of Carmel	E	15.4	C	16.9	C	16.4	C
15	Rio Road/Lasuen Drive	One-Way Stop	City of Carmel	E	17.4	C	14.3	B	12.7	B
16	Rio Road/Santa Lucia Avenue	One-Way Stop	City of Carmel	E	13.1	B	13.1	B	12.5	B
17	Rio Road-Junipero Street/13th Avenue-Ridgewood Road	All-Way Stop	City of Carmel	C	9.0	A	9.8	A	9.6	A

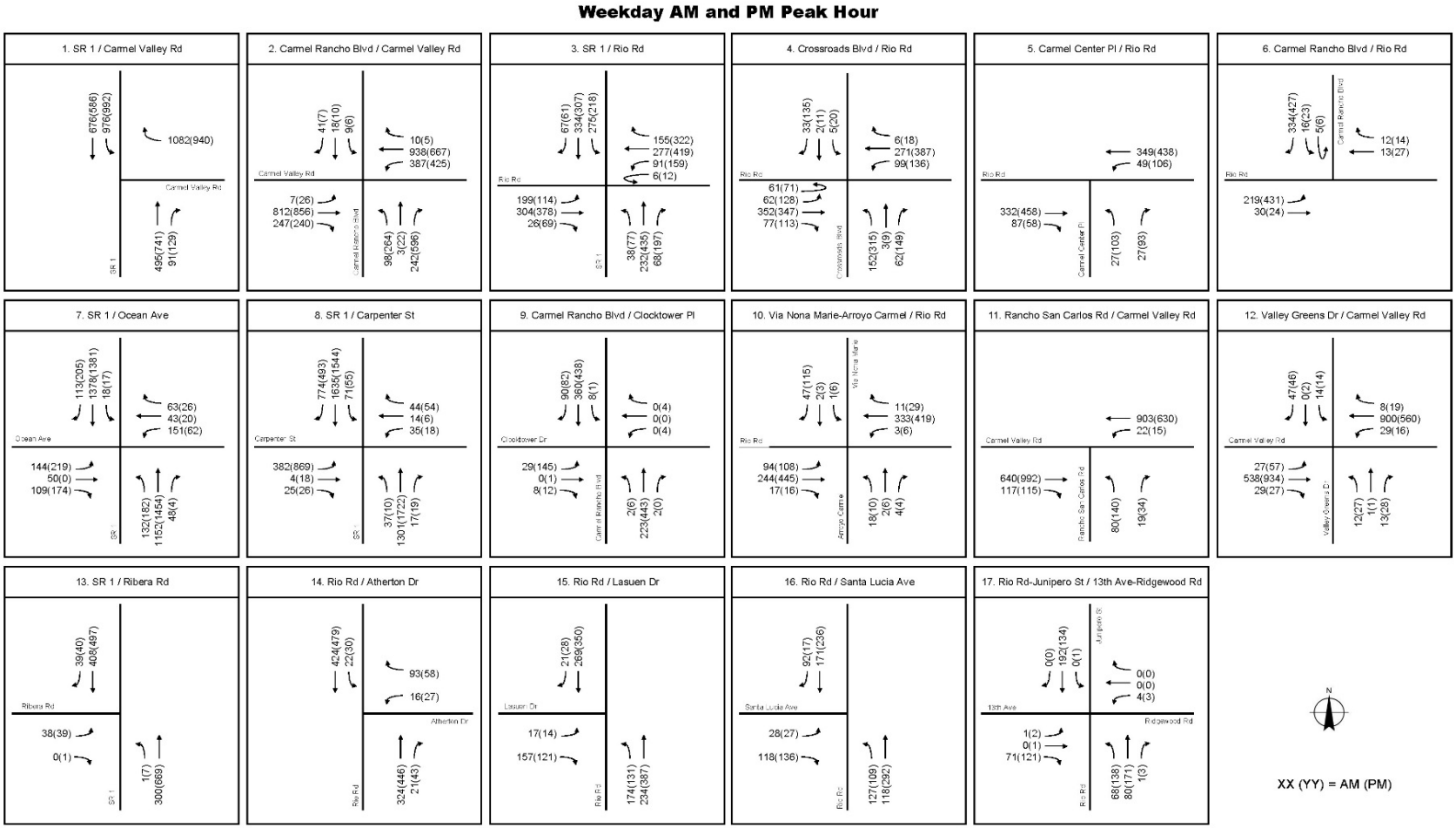
Notes:

1. Intersections 2, 4, 5, 6, 9, 10, 11, and 12 fall within the CVMP and are subject to CVMP LOS standards.

2. LOS given in bold with a grey background indicates an exceedance of the applicable LOS standard.

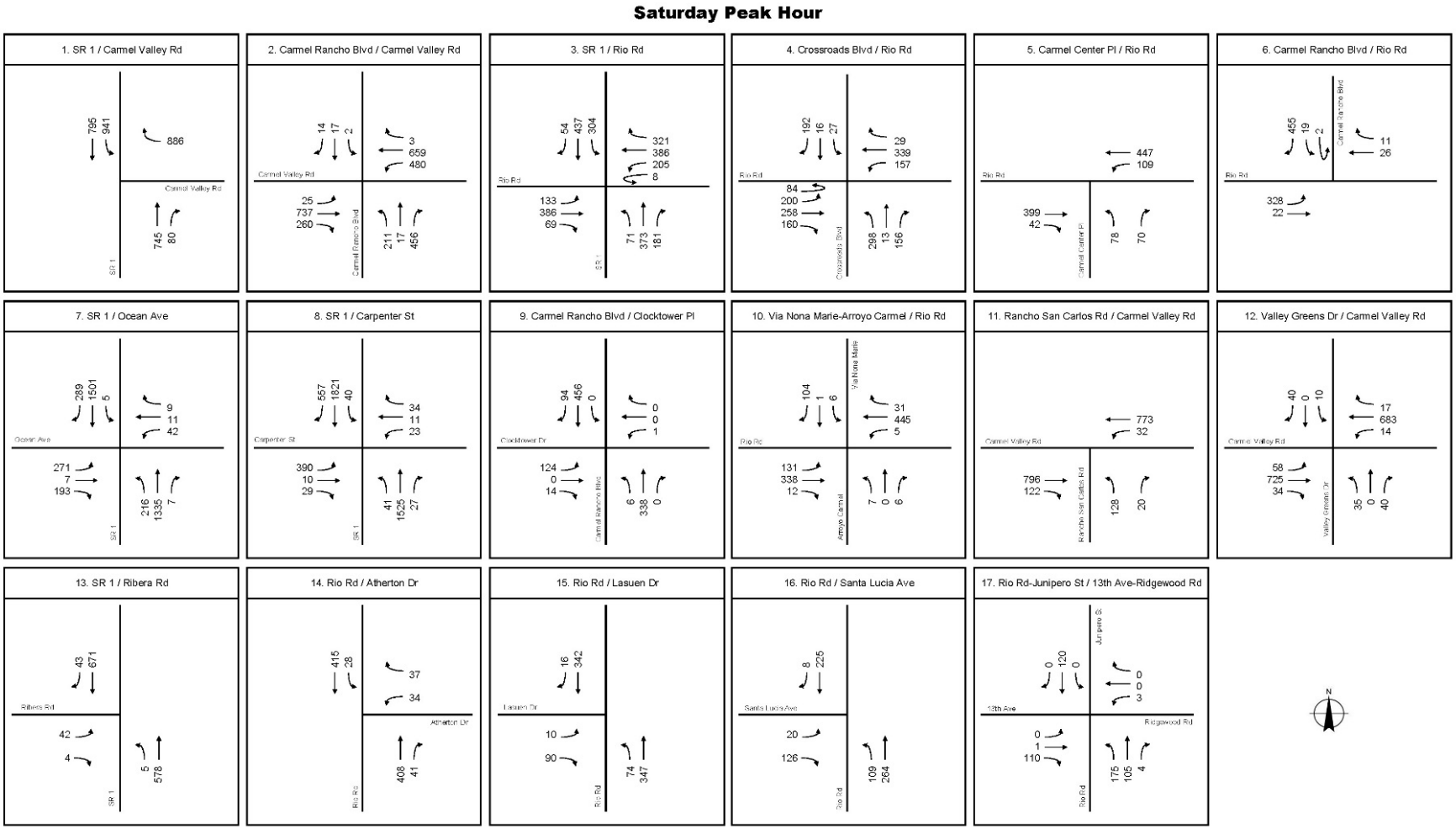
Source: KHTE 2017

Figure 38 Background Plus Project Weekday AM and PM Peak Hour Volumes



Source: KHTE 2017

Figure 39 Background Plus Project Saturday Peak Hour Volumes



Source: KHTE 2017

Road Segment Operations

Road segment LOS are summarized in Table 45. Except for segments 6 and 7, the ADTs on the roadways included in the CVMP are projected to be below the CVMP ADT thresholds under background plus project conditions.

Based on the LOS standards described in Section 4.17.2(b) (Methodology and Significance Thresholds), the following road segments are projected to operate at unacceptable LOS under background plus project conditions:

- Segment 2 – SB SR 1: Ocean Ave to Carmel Valley Road
- Segment 3 – NB & SB SR 1: Carmel Valley Road to Rio Road
- Segment 4 – NB & SB SR 1: Rio Road to Ribera Road
- Segment 6 – EB & WB Carmel Valley Road: Robinson Canyon Road to Schulte Road
- Segment 7 – EB & WB Carmel Valley Road: Schulte Road to Rancho San Carlos Road
- Segment 12 – EB & WB Rio Road: Carmel Rancho Blvd to SR 1
- Segment 13 – NB & SB SR 1: Ribera Road to Highlands Inn

Table 45 Background Plus Project Road Segment LOS

Segment		From	To	CVMP ADT Threshold	ADT	Direction	AM Peak Hour LOS	PM Peak Hour LOS	Saturday Peak Hour LOS
1	Highway 1	Carpenter St	Ocean Ave	N/A	N/A	NB	B	C	C
						SB	C	C	C
2	Highway 1	Ocean Ave	Carmel Valley Road	N/A	N/A	NB	C	C	C
						SB	**F**	**F**	**F**
3	Highway 1	Carmel Valley Road	Rio Road	N/A	N/A	NB	**D**	**E**	**D**
						SB	**D**	**D**	**D**
4	Highway 1	Rio Road	Ribera Road	N/A	N/A	NB	C	**D**	**D**
						SB	**D**	**D**	**D**
5	Rio Road	13th Ave	Highway 1	N/A	N/A	EB	B	B	B
						WB	B	B	B
6	Carmel Valley Road	Robinson Canyon Road	Schulte Road	15,499	**16,766**	EB	C	**E**	**D**
						WB	**E**	**D**	**D**
7	Carmel Valley Road	Schulte Road	Rancho San Carlos Road	16,340	**18,709**	EB	**D**	**E**	**E**
						WB	**E**	**D**	**E**
8	Carmel Valley Road	Rancho San Carlos Road	Rio Road	48,487	21,797	EB	A	B	A
						WB	A	A	A
9	Carmel Valley Road	Rio Road	Carmel Rancho Blvd	51,401	28,411	EB	B	B	B
						WB	C	B	B
10	Carmel Valley Road	Carmel Rancho Blvd	Highway 1	27,839	15,984	EB	B	A	A
						WB	B	A	A
11	Carmel Rancho Blvd	Carmel Valley Road	Rio Road	33,495	11,990	NB	A	A	A
						SB	A	B	B
12	Rio Road	Carmel Rancho Blvd	Highway 1	33,928	14,270	NB	C	**D**	C
						SB	**D**	**D**	**D**
13	Highway 1	Ribera Road	Highlands Inn	N/A	N/A	NB	C	**D**	**D**
						SB	**D**	**D**	**D**
14	Crossroads Blvd	Rio Road	Terminus	N/A	N/A	NB	B	B	B
						SB	B	B	B
15	Carmel Center Place	Rio Road	Terminus	N/A	N/A	NB	A	A	A
						SB	A	A	A

Notes: Entries given in bold with a grey background indicates an exceedance of the applicable LOS standard or CVMP ADT threshold.
Source: KHTE 2017

Project Impacts

The project would have a potentially significant impact to the following study intersections:

- **Intersection 2 – Carmel Rancho Boulevard/Carmel Valley Road (Caltrans).** Under background traffic conditions, this intersection is projected to operate at LOS C during the peak hours. Under background plus project conditions, it would operate at LOS C during the AM and Saturday peak hours and LOS D during the PM peak hour. This intersection is under Caltrans jurisdiction. Based on the impact criteria, the project would have a potentially significant impact during the weekday PM peak hour.
- **Intersection 3 – Highway 1/Rio Road (Caltrans).** Under background traffic conditions, this intersection is projected to operate at LOS D during the AM and PM peak hours and LOS E during the Saturday peak hour. Under background plus project conditions, it would operate at LOS D during the AM peak hour and LOS E during the PM and Saturday peak hours and would increase delay during all peak hours. Based on Caltrans impact criteria, the project the project would have a potentially significant impact during all study peak hours.
- **Intersection 8 – Highway 1/Carpenter Street (Caltrans).** Under background traffic conditions, this intersection is projected to operate at LOS C during the AM and Saturday peak hours and LOS D during the PM peak hour. Under background plus project conditions, it would continue to operate at LOS C during the AM and Saturday peak hours and LOS D during the PM peak hour and would increase the delay during peak hours. Based on the impact criteria, the project would have a potentially significant impact during the weekday PM peak hour.
- **Intersection 12 – Valley Greens Drive/Carmel Valley Road (CVMP).** Under background traffic conditions, this intersection is projected to operate at LOS E during the AM and Saturday peak hours and LOS F during the PM peak hour. Under background plus project conditions, it would operate at LOS F during the AM, PM, and Saturday peak hours. Project-generated traffic would increase the volumes during peak hours. Based on the CVMP impact criteria, the project would have a potentially significant impact during the weekday AM, PM, and Saturday peak hours.

The project would have a potentially significant impact to the following road segments:

- **Segment 2 – Southbound Highway 1 between Ocean Ave and Carmel Valley Road (Caltrans).** Under background traffic conditions, this segment is projected to operate at LOS F in the southbound direction during the peak hours. Under background plus project conditions, it would continue to operate at LOS F and traffic volume would be increased. Based on Caltrans impact criteria, the project would have a potentially significant impact in the southbound direction during the weekday AM, PM, and Saturday peak hours.
- **Segment 3 – Highway 1 between Carmel Valley Road and Rio Road (Caltrans).** Under background traffic conditions, this segment is projected to operate at LOS D and E in the northbound direction and LOS D in the southbound direction during the peak hours. Under background plus project conditions, it would continue to operate at LOS D and E, but the PTSF measure of effectiveness would increase. Based on Caltrans impact criteria, the project would have a potentially significant impact.
- **Segment 4 – Highway 1 between Rio Road and Ribera Road (Caltrans).** Under background traffic conditions, this segment is projected to operate at LOS D in the northbound and southbound directions during the peak hours. Under background plus project conditions, it would continue to operate at LOS D, but the PTSF measure of effectiveness would increase. Based on Caltrans impact criteria, the project would have a potentially significant impact.

- **Segment 6 – Carmel Valley Road between Robinson Canyon Road and Schulte Road (CVMP).** Under background traffic conditions, the Average Daily Traffic (ADT) volumes on this segment are projected to exceed the CVMP ADT threshold, and it would operate at LOS D and E in the eastbound and westbound directions during the peak hours. Under background plus project conditions, it would continue to exceed the ADT threshold and would operate at LOS D and E during the peak hours. Based on CVMP impact criteria, the project would have a potentially significant impact on an ADT basis.
- **Segment 7 – Carmel Valley Road between Schulte Road and Rancho San Carlos Road (CVMP).** Under background traffic conditions, the Average Daily Traffic (ADT) volumes on this segment are projected to exceed the CVMP ADT threshold, and it would operate at LOS D and E in the eastbound and westbound directions during the peak hours. Under background plus project conditions, it would continue to exceed the ADT threshold and would operate at LOS D and E during the weekday AM and PM peak hours. This segment would degrade from LOS D to LOS E in the westbound direction during the Saturday peak hour. Based on CVMP impact criteria, the project have a potentially significant impact on an ADT basis and in the westbound direction during the Saturday peak hour.
- **Segment 12 – Rio Road between Carmel Rancho Blvd and Highway 1 (CVMP).** Under background traffic conditions, this segment is projected to operate at LOS D in the westbound direction during the peak hours. Under background plus project conditions, it would continue to operate at LOS D in the westbound direction. This segment would degrade from LOS C to LOS D in the eastbound direction during the weekday PM peak hour. Based on CVMP impact criteria, the project have a potentially significant impact during the weekday PM peak hour.
- **Segment 13 – Highway 1 between Ribera Road and Highlands Inn (Caltrans).** Under background traffic conditions, this segment is projected to operate at LOS D in the southbound direction and LOS C in the northbound direction in the AM peak hour, LOS C in the southbound direction and LOS D in the northbound direction in the PM peak hour, and LOS D in the Saturday peak hour. Under background plus project conditions, it would degrade from LOS C to LOS D in the southbound direction during the PM peak hour. In addition, it would increase the PTSF measure of effectiveness in the PM and Saturday peak hours. This segment is under Caltrans jurisdiction. Based on Caltrans impact criteria, the project would have a potentially significant impact to this segment in the southbound direction during the PM peak hour, as well as the Saturday peak hour.

Background Plus Project Conditions Summary

Table 46 summarizes the project's traffic impacts relative to background conditions and potential Mitigation Measures provided in the traffic study to address impacted roadways. As indicated in the table, all roadways that would operate at unacceptable levels under background conditions with the project would already operate at unacceptable levels under background conditions except for Intersection 2 (Carmel Rancho Boulevard/Carmel Valley Road). Three intersections and seven road segments would be further degraded to a potentially significant degree by the project. Compared to existing plus project conditions, background plus project conditions would additionally impact Intersections 2 and 12 and Segment 4.

Table 46 Background Conditions: Project Impacts to Degraded Roadways and Potential Mitigation

Study Intersection/ Road Segments	Unacceptable LOS under Background Conditions	Unacceptable LOS under Background + Project Conditions	Potentially Significant Project Impact	Potential Mitigation Provided in Traffic Study
Intersection 2 – Carmel Rancho Boulevard/Carmel Valley Road (CVMP)		X	X	The addition of an eastbound right-turn overlap phase would reduce delay at this intersection, but it would still operate at a deficient LOS D during the PM peak hour under background plus project traffic conditions. This improvement would only partially mitigate this impact. There would be a remaining unmitigated significant impact.
Intersection 3 – Highway 1/ Rio Road (Caltrans)	X	X	X	TAMC planned improvements at the Highway 1/Rio Road intersection include converting the northbound Highway 1 right-turn lane to a shared through/right-turn lane, and an additional southbound through lane. These improvements, in addition to a second westbound left-turn lane, would result in acceptable operations at this intersection under background plus project traffic conditions.
Intersection 8 – Highway 1/ Carpenter Street (Caltrans)	X	X	X	With the addition of a third northbound through lane, this intersection would operate at an acceptable LOS C during the weekday AM, PM, and Saturday peak hours under background plus project traffic conditions. This improvement is not planned or funded.
Intersection 12 – Valley Greens Drive/Carmel Valley Road (CVMP)	X	X	X	Converting this intersection from two-way stop control to a roundabout would result in acceptable traffic operations during the weekday AM, PM, and Saturday peak hours under cumulative plus project traffic conditions. This improvement is planned and funded through payment of CVTIP impact fees. A traffic signal is an alternative improvement.

Study Intersection/ Road Segments	Unacceptable LOS under Background Conditions	Unacceptable LOS under Background + Project Conditions	Potentially Significant Project Impact	Potential Mitigation Provided in Traffic Study
Segment 2 – SB Highway 1: Ocean Ave to Carmel Valley Rd (Caltrans)	X	X	X	The construction of a second southbound lane on Highway 1 between Ocean Avenue and Carmel Valley Road would result in acceptable traffic operations. However, this improvement is not planned or funded.
Segment 3 – NB & SB SR 1: Carmel Valley Rd to Rio Rd (Caltrans)	X	X	X	TAMC planned improvements at the Highway 1/Rio Road intersection include converting the northbound Highway 1 right-turn lane to a shared through/right-turn lane, and an additional southbound through lane. This would improve traffic operations to an acceptable level.
Segment 4 – NB & SB Highway 1: Rio Road to Ribera Road (Caltrans)	X	X	X	Widening this segment to four lanes would improve operations to an acceptable level. However, this improvement is not planned or funded. It also would not be consistent with California Coastal Act Policy 30254 which states that "it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road."
Segment 6 – EB & WB Carmel Valley Rd: Robinson Canyon Rd to Schulte Rd (CVMP)	X	X	X	Widening this segment to two lanes in each direction would result in acceptable traffic operations. However, this improvement is not planned or funded.
Segment 7 – EB & WB Carmel Valley Rd: Schulte Rd to Rancho San Carlos Rd (CVMP)	X	X	X	Widening this segment to two lanes in each direction would result in acceptable traffic operations. However, this improvement is not planned or funded.
Segment 12 – WB Rio Road: Carmel Rancho Blvd to Highway 1 (CVMP)	X	X	X	The construction of a third eastbound lane on Rio Road between Carmel Rancho Boulevard and Highway 1 would result in acceptable traffic operations. However, this improvement is not planned or funded.

Study Intersection/ Road Segments	Unacceptable LOS under Background Conditions	Unacceptable LOS under Background + Project Conditions	Potentially Significant Project Impact	Potential Mitigation Provided in Traffic Study
Segment 13 – NB & SB Highway 1: Ribera Rd to Highlands Inn (Caltrans)	X	X	X	Widening this segment to four lanes would improve operations to an acceptable level. However, this improvement is not planned or funded. It also would not be consistent with California Coastal Act Policy 30254 which states that "it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road."

Source: KHTE 2017

Mitigation Measures

Based on the impact analysis in the traffic study summarized above, four intersections and seven road segments require mitigation under background plus project conditions. Incorporation of Mitigation Measure T-1 would be required to reduce project impacts on area traffic.

Significance After Mitigation

While the proposed project's impact to Intersection 3 in the northbound direction and Segment 3 would be eliminated with planned improvements in the TAMC RTP and implementation of MM T-1 under background plus project conditions, the construction of these planned improvements is dependent on STIP funding, which is not guaranteed at this time. Participation in funding these improvements – as is required through payment of TAMC impact fees – would partially reduce impacts. However, because complete funding cannot be guaranteed and timing of the planned improvements cannot be assured, impacts would remain significant and unavoidable.

The conversion of Intersection 12 (Valley Greens Drive/Carmel Valley Road) from a two-way stop control to a roundabout is already planned by the County and the project would be required to make a fair share contribution to this improvement through payment of the CVTIP impact fee. This would reduce the project's impact to this intersection to a less than significant level.

Improvements to Intersection 2 (Carmel Rancho Boulevard/Carmel Valley Road), Intersection 8 (Highway 1/Carpenter Street), Intersection 12 (Valley Greens Drive/Carmel Valley Road), Segment 2 (Highway 1: Ocean Avenue to Carmel Valley Road), Segment 4 (Highway 1: Rio Road to Rivera Road), Segment 6 (Carmel Valley Road: Robinson Canyon Road to Schulte Road), Segment 7 (Carmel Valley Road: Schulte Road to Rancho San Carlos Road), Segment 12 (Rio Road: Carmel Rancho Boulevard to Highway 1), and Segment 13 (Highway 1: Ribera Road to Highlands Inn) would be infeasible because there is no available mechanism for the project to fund these improvements as they are not included in the TAMC or Carmel Valley Traffic Improvement Program (CVTIP) project list. Impacts to these road segments would remain significant and unavoidable.

To summarize, project impacts to the following intersections and road segments would remain significant and unavoidable under background plus project conditions:

- Intersection 2 – Carmel Rancho Boulevard/Carmel Valley Road
- Intersection 3 – Highway 1/Rio Road
- Intersection 8 – Highway 1/Carpenter Street
- Segment 2 – Southbound Highway 1: Ocean Ave to Carmel Valley Road
- Segment 3 – Highway 1: Carmel Valley Road to Rio Road
- Segment 4 – Highway 1: Rio Road to Ribera Road
- Segment 6 – Carmel Valley Road: Robinson Canyon Road to Schulte Road),
- Segment 7 – Carmel Valley Road: Schulte Road to Rancho San Carlos Road
- Segment 12 – Rio Road: Carmel Rancho Blvd to Highway 1
- Segment 13 – Highway 1: Ribera Road to Highlands Inn

Threshold 4: Substantially increase hazards due to a design feature or incompatible uses.

Impact T-3 PROJECT ACCESS AND INTERNAL CIRCULATION AS CURRENTLY DESIGNED WOULD POSE POTENTIAL SAFETY HAZARDS TO ON- AND OFF-SITE TRAFFIC AND DELIVERY SERVICE EMPLOYEES. IMPACTS WOULD BE SIGNIFICANT, BUT MITIGABLE.

As described in Section 2.5, Site Access and Parking, the project site would have a primary access point along Rio Road that aligns with Crossroads Boulevard, as well as three secondary access points: one from the main parking lot area of the existing adjacent lodging use/inn, a second from the lodging/inn roundabout area to the north of the main parking lot, and a third at the northern corner of the site that would connect with the existing Barnyard Shopping Village parking lot. The lodging/inn parking lot is accessible from an existing driveway along Rio Road to the west of the site that serves both the Chevron gas station and the Inn. Figure 6 shows the site plan with access points and internal roadways.

Potential hazards associated with the current design of the access points and internal road have been identified:

- The existing left-turn lane on Rio Road at Crossroads Boulevard would have insufficient queuing length to support project traffic turning into the main entrance. The project will add 128 left turns to the existing volume of 71 (199 total) in the weekday PM peak hour and 200 left turns to the existing volume of 84 (284 total) vehicles in the Saturday peak hour. This would result in overflow onto Rio Road.
- The internal roadway running parallel to the north and northwest boundary of the site would provide vehicles with direct access from westbound Rio Road to the Barnyard Shopping Village via the lodging/inn driveway and vice versa. This would accommodate through-traffic, which would potentially result in traffic speeds above levels considered acceptable in a parking lot.
- The two roadways extending from the two lodging/inn access points would intersect, creating a four-way intersection that lacks traffic control. This would pose a potential roadway hazard.
- A loading turnout is proposed on the north side of Rio Road in front of Store B. Delivery trucks would contribute to traffic congestion and delivery truck drivers would be exposed to roadway traffic when exiting the truck and loading and unloading activities would take place partially in Rio Road.

Mitigation Measures

Project access and internal circulation as currently designed would pose potential safety hazards to on and off-site traffic and delivery service employees. The project would incorporate Mitigation Measure T-1, which would address the insufficient queueing length of the eastbound Rio Road left-turn lane. The following Mitigation Measure would address the other potential design hazards identified above.

T-3 Internal Circulation and Project Access Design Improvements

The developer shall incorporate the recommended Mitigation Measures in the traffic study that address the potential impacts to project access and internal circulation. Mitigation would be incorporated into the final site plan and submitted for County review prior to the issuance of building permits.

The following recommended measures shall be incorporated:

a. Install a stop sign on the project exit at the Barnyard parking lot.
b. Install all-way stop control at the four-legged intersection immediately south of the connection to the existing adjacent lodging use.
c. Either relocate the loading facility in front of Store B to the on-site parking lot near Stores A and B, or design the loading facility to the satisfaction of the Monterey County Public Works Department.

MONITORING ACTION

Prior to the issuance of grading or building permits, plans illustrating the location of stop signs, intersection controls, and loading areas for all proposed buildings shall be submitted to RMA-Public Works for review and approval.

Significance After Mitigation

Implementation of Mitigation Measure T-1 and Mitigation Measure T-3 would reduce potentially significant project impacts resulting from design hazards to a less than significant level.

Threshold 4: Result in inadequate emergency access.

Impact T-4 THE PROJECT WOULD PROVIDE SUFFICIENT ACCESS TO EMERGENCY VEHICLES, WOULD BE REQUIRED TO COMPLY WITH LOCAL AND STATE STANDARDS FOR FIRE SAFETY, AND WOULD UNDERGO PLAN REVIEW FOR COMPLIANCE WITH FIRE CODE STANDARDS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Emergency vehicles would be able to access the site from the four access points described above under Impact T-3. The project design would be required to conform with requirements contained in the California Building Code and any local amendments to the Fire Code contained in the County's municipal code that specify adequate emergency access measures. The project site plan would also undergo review by the Cypress Fire Protection District for compliance with the Fire Code and local ordinances (Cypress Fire District 2017). In addition, the project would not require any permanent street closures and is situated next door to the Cypress Fire Protection District Station. Therefore, project impacts to traffic flow would not impede access to the site via off-site roadways by emergency vehicles. Impacts would be less than significant.

Mitigation Measures

This impact would be less than significant. No mitigation is required.

Threshold 5:	Conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities.

Impact T-5 THE PROJECT WOULD NOT CONFLICT WITH ADOPTED POLICIES, PLANS, OR PROGRAMS REGARDING PUBLIC TRANSIT, BIKEWAYS, OR PEDESTRIAN FACILITIES. THE PROJECT WOULD HAVE TEMPORARY, SHORT-TERM IMPACTS TO PUBLIC TRANSIT AND PEDESTRIAN FACILITIES DURING PROJECT CONSTRUCTION. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Bike and Pedestrian Facilities

Neither the project, nor any Mitigation Measures included in this document, would impact existing bike facilities or conflict with the County's Bikeway Plan. The project would, however, remove and replace existing sidewalk along the project site's Rio Road frontage. Any loss of sidewalk would be temporary and of short duration. Mitigation Measure T-3 would also remove the existing painted crosswalk that crosses Rio Road at the Chevron gas station. However, a signalized pedestrian cross-walk is provided nearby at Crossroads Boulevard. Therefore, there would be adequate pedestrian crossings providing access to the site.

Transit Facilities

The primary public transit service in the County of Monterey is bus service provided by Monterey-Salinas Transit (MST). Near the project site, MST Route 24 provides bus service along Rio Road, Carmel Rancho Boulevard and Carmel Valley Road between Carmel Valley Village and the Monterey Transit Plaza with 60-minute headways during weekday peak hours. Bus stops within the study area are located on Carmel Rancho Boulevard north and south of Clock Tower Lane and on Rio Road between Carmel Center Place and Via Nona Marie.

The project would relocate an existing bus stop located on the north side of Rio Road immediately west of the Crossroads Boulevard/Rio Road intersection. As the main project access would be constructed in this location, the bus stop and pullout would be relocated approximately 100 feet to the east, approximately mid-way between Crossroads Boulevard and Carmel Center Place. The loss of the bus pullout and shelter structure would be temporary and of short duration. This impact would be less than significant.

Mitigation Measures

Impacts would be less than significant without mitigation.

4.8.4 Cumulative Impacts

a. Traffic

Cumulative Plus Project Intersection Operations

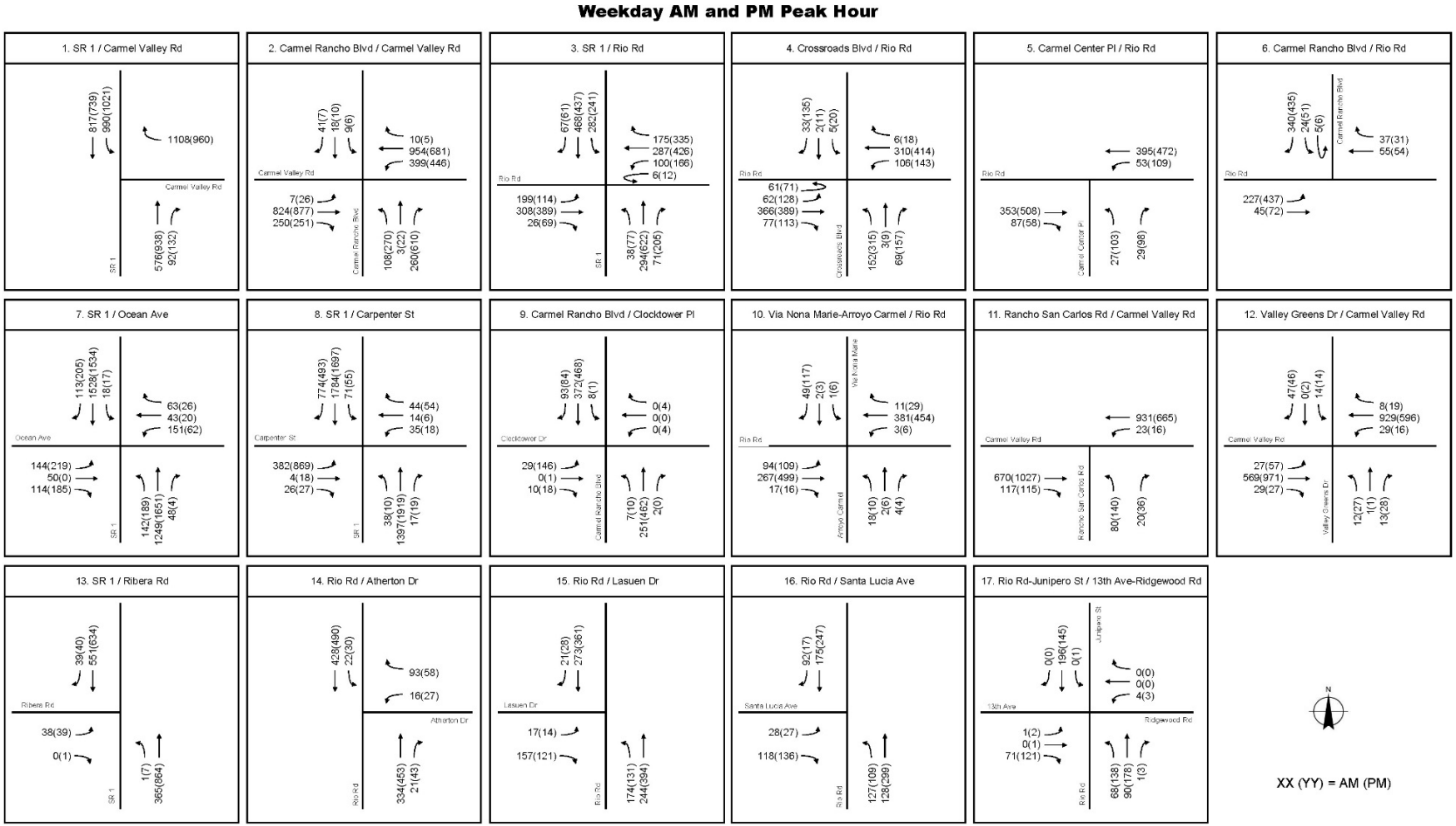
The trips generated by the project were combined with the cumulative volumes to obtain cumulative plus project conditions traffic volumes. Cumulative plus project weekday AM, PM, and

Saturday peak hour traffic volumes are shown in Figure 40 and Figure 41, respectively. Intersection LOS are summarized in Table 47.

Based on the LOS standards described in Section 4.17.2(b) (Methodology and Significance Thresholds), all the study intersections are projected to operate at acceptable LOS under cumulative plus project conditions with the following exceptions:

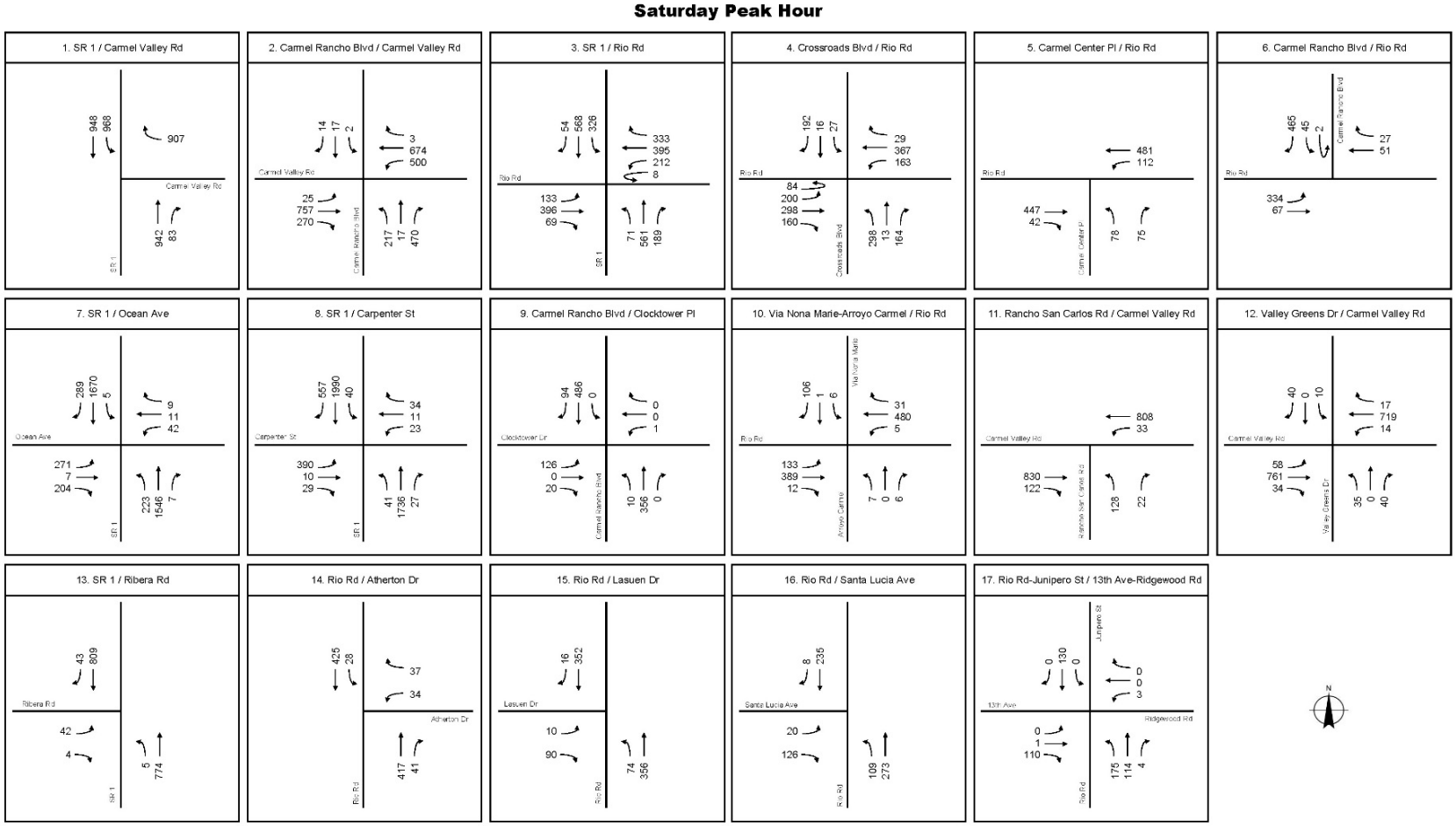
- Intersection 2 – Carmel Rancho Boulevard/Carmel Valley Road
- Intersection 3 – Highway 1/Rio Road
- Intersection 7 – Highway 1/Ocean Avenue
- Intersection 8 – Highway 1/Carpenter Street
- Intersection 12 – Valley Greens Drive/Carmel Valley Road
- Intersection 13 – Highway 1/Ribera Road

Figure 40 Cumulative Plus Project Weekday AM and PM Peak Hour Volumes



Source: KHTE 2017

Figure 41 Cumulative Plus Project Saturday Peak Hour Volumes



Source: KHTE 2017

Table 47 Cumulative Plus Project Intersection LOS

Intersection		Control Type	Jurisdiction	LOS Standard[1]	AM Peak Hour Delay (sec)	AM Peak Hour LOS	PM Peak Hour Delay (sec)	PM Peak Hour LOS	Saturday Peak Hour Delay (sec)	Saturday Peak Hour LOS
1	Highway 1/Carmel Valley Road	Signal	Caltrans	C/D	17.1	B	27.2	C	22.7	C
2	Carmel Rancho Blvd/Carmel Valley Road	Signal	Monterey County	C	31.3	C	41.6	**D**	25.6	C
	With eastbound right turn only				30.3	C	39.8	**D**	23.9	C
3	Highway 1/ Rio Road	Signal	Caltrans	C/D	46.0	**D**	76.9	**E**	88.2	**F**
	With RTP improvements and 2nd westbound left lane				28.3	C	36.6	**D**	40.0	**D**
4	Crossroads Blvd/Rio Road	Signal	Monterey County	C	14.4	B	21.5	C	25.4	C
5	Carmel Center Place/Rio Road	Signal	Monterey County	C	5.6	A	10.4	B	11.9	B
6	Carmel Rancho Blvd/Rio Road	Two-Way Stop	Monterey County	C or E	13.5	B	25.4	D	21.6	C
7	Highway 1/Ocean Ave	Signal	Caltrans	C/D	42.8	D	35.6	**D**	45.7	**D**
8	Highway 1/Carpenter St	Signal	Caltrans	C/D	25.6	C	50.8	**D**	26.4	C
	With 3rd northbound through lane				24.2	C	34.6	C	23.9	C
9	Carmel Rancho Blvd/Clocktower Place	Two-Way Stop	Monterey County	E	16.0	C	44.7	E	34.3	D
10	Via Nona Marie/Rio Road	Two-Way Stop	Monterey County	E	19.1	C	31.1	D	21.4	C
11	Rancho San Carlos Boulevard/Carmel Valley Road	Signal	Monterey County	C	9.2	A	13.3	B	10.3	B
12	Valley Greens Drive/Carmel Valley Road	Two-Way Stop	Monterey County	C or E	59.5	F	126.2	**F**	77.0	**F**
	With roundabout				8.3	A	9.1	A	7.9	A

Intersection		Control Type	Jurisdiction	LOS Standard[1]	AM Peak Hour		PM Peak Hour		Saturday Peak Hour	
					Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
13	Highway 1/Ribera Road	One-Way Stop	Caltrans	E	21.8	C	51.0	**F**	59.6	**F**
14	Rio Road/Atherton Drive	One-Way Stop	Monterey County and City of Carmel	E	15.7	C	17.2	C	16.6	C
15	Rio Road/Lasuen Drive	One-Way Stop	City of Carmel	E	17.7	C	14.6	B	12.9	B
16	Rio Road/Santa Lucia Avenue	One-Way Stop	City of Carmel	E	13.3	B	13.3	B	12.7	B
17	Rio Road-Junipero Street/13th Avenue-Ridgewood Road	All-Way Stop	City of Carmel	C	9.0	A	9.9	A	9.8	A

Notes:

1. Intersections 2, 4, 5, 6, 9, 10, 11, and 12 fall within the CVMP and are subject to CVMP LOS standards.

2. LOS given in bold with a grey background indicates an exceedance of the applicable LOS standard.

Source: KHTE 2017

Cumulative Plus Project Road Segment Operations

Cumulative plus project conditions road segment LOS are summarized in Table 48.

Except for segments 6 and 7, the ADT on the roadways included in the CVMP are projected to be below the CVMP ADT thresholds under cumulative plus project conditions. Based on the LOS standards described in Section 4.17.2(b) (Methodology and Significance Thresholds), the following study road segments are projected to operate at unacceptable LOS during the weekday AM, PM, and/or Saturday peak hours:

- Segment 2 – SB Highway 1: Ocean Ave to Carmel Valley Road
- Segment 3 – NB & SB Highway 1: Carmel Valley Road to Rio Road
- Segment 4 – NB & SB Highway 1: Rio Road to Ribera Road
- Segment 6 – EB & WB Carmel Valley Road: Robinson Canyon Road to Schulte Road
- Segment 7 – EB & WB Carmel Valley Road: Schulte Road to Rancho San Carlos Road
- Segment 12 – EB & WB Rio Road: Carmel Rancho Blvd to Highway 1
- Segment 13 – NB & SB Highway 1: Ribera Road to Highlands Inn

Table 48 Cumulative Plus Project Road Segment LOS

Segment		From	To	CVMP ADT Threshold	ADT	Direction	AM Peak Hour LOS	PM Peak Hour LOS	Saturday Peak Hour LOS
1	Highway 1	Carpenter St	Ocean Ave	N/A	N/A	NB	C	C	C
						SB	C	C	C
2	Highway 1	Ocean Ave	Carmel Valley Road	N/A	N/A	NB	C	C	C
						SB	**F**	**F**	**F**
3	Highway 1	Carmel Valley Road	Rio Road	N/A	N/A	NB	**D**	**E**	**E**
						SB	**D**	**D**	**E**
4	Highway 1	Rio Road	Ribera Road	N/A	N/A	NB	C	**E**	**E**
						SB	**D**	**D**	**D**
5	Rio Road	13th Ave	Highway 1	N/A	N/A	EB	B	B	B
						WB	B	B	B
6	Carmel Valley Road	Robinson Canyon Road	Schulte Road	15,499	**17,496**	EB	C	**E**	**E**
						WB	**E**	**D**	**D**
7	Carmel Valley Road	Schulte Road	Rancho San Carlos Road	16,340	**19,439**	EB	**D**	**E**	**E**
						WB	**E**	**E**	**E**
8	Carmel Valley Road	Rancho San Carlos Road	Rio Road	48,487	22,497	EB	A	B	**A**
						WB	A	A	A
9	Carmel Valley Road	Rio Road	Carmel Rancho Blvd	51,401	29,111	EB	B	B	B
						WB	C	B	B
10	Carmel Valley Road	Carmel Rancho Blvd	Highway 1	27,839	25,504	EB	B	B	A
						WB	B	A	A
11	Carmel Rancho Blvd	Carmel Valley Road	Rio Road	33,495	12,510	NB	A	A	A
						SB	A	B	B
12	Rio Road	Carmel Rancho Blvd	Highway 1	33,928	14,960	NB	C	**D**	C
						SB	**D**	**D**	**D**
13	Highway 1	Ribera Road	Highlands Inn	N/A	N/A	NB	C	**E**	**D**
						SB	**D**	**D**	**D**

Segment		From	To	CVMP ADT Threshold	ADT	Direction	AM Peak Hour LOS	PM Peak Hour LOS	Saturday Peak Hour LOS
14	Crossroads Blvd	Rio Road	Terminus	N/A	N/A	NB	B	B	**B**
						SB	B	B	B
15	Carmel Center Place	Rio Road	Terminus	N/A	N/A	NB	A	A	A
						SB	A	A	A

Notes: Entries given in bold with a grey background indicates an exceedance of the applicable LOS standard or CVMP ADT threshold.
Source: KHTE 2017

Project Impacts

The project would have a potentially significant impact to the following study intersections:

- **Intersection 2 – Carmel Rancho Boulevard/Carmel Valley Road (Caltrans).** Under cumulative traffic conditions, this intersection is projected to operate at LOS C during the peak hours. Under cumulative plus project conditions, it would operate at LOS C during the AM and Saturday peak hours and LOS D during the PM peak hour. Based on Caltrans impact criteria, the project would have a potentially significant impact to this intersection during the weekday PM peak hour.
- **Intersection 3 – Highway 1/Rio Road (Caltrans).** Under cumulative traffic conditions, this intersection is projected to operate at LOS D during the AM peak hour and LOS E during the PM and Saturday peak hours. Under cumulative plus project conditions, it would operate at LOS D during the AM peak hour, LOS E during the PM peak hour, and LOS F during the Saturday peak hour. This intersection is under Caltrans jurisdiction. Based on Caltrans impact criteria, the project would have a potentially significant impact to this intersection during the weekday AM, PM, and Saturday peak hours.
- **Intersection 7 – Highway 1/Ocean Avenue (Caltrans).** Under cumulative traffic conditions, this intersection is projected to operate at LOS D during the AM and Saturday peak hours. Under cumulative plus project conditions, it would continue to operate at LOS D during the AM, PM, and Saturday peak hours, but with increased delay in the PM and Saturday peak hours. Based on Caltrans impact criteria, the project would have a potentially significant impact to this intersection during the weekday PM and Saturday peak hours.
- **Intersection 8 – Highway 1/Carpenter Street (Caltrans).** Under cumulative traffic conditions, this intersection is projected to operate at LOS C during the AM and Saturday peak hours and LOS D during the PM peak hour. Under cumulative plus project conditions, it would continue to operate at LOS C during the AM and Saturday peak hours and LOS D during the PM peak hour, but with an increase in delay during the PM peak hour. Based on Caltrans impact criteria, the project would have a potentially significant impact to this intersection during the weekday PM peak hour.
- **Intersection 12 – Valley Greens Drive/Carmel Valley Road (CVMP).** Under cumulative traffic conditions, this intersection is projected to operate at LOS F during the AM, PM, and Saturday peak hours. Under cumulative plus project conditions, it would continue to operate at LOS F during the AM, PM, and Saturday peak hours. Based on CVMP impact criteria, the project would

have a potentially significant impact to this intersection during the weekday AM, PM, and Saturday peak hours.

- **Intersection 13 – Highway 1/Ribera Road (Caltrans).** Under cumulative traffic conditions, the worst approach of this intersection is projected to operate at an acceptable LOS C and an unacceptable LOS E during the AM and PM peak hours, respectively, and an unacceptable LOS F during the Saturday peak hour. Under cumulative plus project conditions, it would continue to operate at LOS C during the AM and would operate at an unacceptable LOS F during the PM and Saturday peak hours and the project would increase delay during all peak hours. Based on Caltrans impact criteria, the project would have a potentially significant impact to this intersection during the weekday PM and Saturday peak hours.

The project would have a potentially significant impact to the following study intersections:

- **Segment 2 – Southbound Highway 1 between Ocean Ave and Carmel Valley Road (Caltrans).** Under cumulative traffic conditions, this segment is projected to operate at LOS F in the southbound direction during the peak hours. Under cumulative plus project conditions, it would continue to operate at LOS F, but with an increased PTSF measure of effectiveness. Based on Caltrans impact criteria, the project would have a potentially significant impact to this segment in the southbound direction during the weekday AM, PM, and Saturday peak hours.
- **Segment 3 – Highway 1 between Carmel Valley Road and Rio Road (Caltrans).** Under cumulative conditions, this segment is projected to operate at LOS D and E in the northbound and southbound directions during the peak hours. Under cumulative plus project conditions, it would continue to operate at LOS D and E, but with an increased PTSF measure of effectiveness. Based on Caltrans impact criteria, the project would have a potentially significant impact to this segment during all peak hours.
- **Segment 4 – Highway 1 between Rio Road and Ribera Road (Caltrans).** Under cumulative traffic conditions, this segment is projected to operate at LOS D or E in the northbound and southbound directions during the peak hours. Under cumulative plus project conditions, it would degrade from LOS D to LOS E in the northbound direction during the Saturday peak hour. The project would also increase the PTSF measure of effectiveness in the PM and Saturday peak hours. Based on Caltrans impact criteria, the project would have a potentially significant impact to this segment.
- **Segment 6 – Carmel Valley Road between Robinson Canyon Road and Schulte Road (CVMP).** Under cumulative traffic conditions, the ADT volumes on this segment are projected to exceed the CVMP ADT threshold, and it would operate at LOS D and E in the eastbound and westbound directions during the peak hours. Under cumulative plus project conditions, it would continue to exceed the ADT threshold and would operate at LOS D and E during the peak hours. Based on CVMP impact criteria, the project would have a potentially significant impact to this segment on an ADT basis.
- **Segment 7 – Carmel Valley Road between Schulte Road and Rancho San Carlos Road (CVMP).** Under cumulative traffic conditions, the ADT volumes on this segment are projected to exceed the CVMP ADT threshold, and it would operate at LOS D and E in the eastbound and westbound directions during the peak hours. Under cumulative plus project conditions, it would degrade from LOS D to LOS E in the westbound direction during the PM peak hour and would continue to exceed the ADT threshold. Based on CVMP impact criteria, the project would have a potentially significant impact to this segment on an ADT basis and in the westbound direction during the PM peak hour.

- **Segment 12 – Rio Road between Carmel Rancho Blvd and Highway 1 (CVMP).** Under cumulative traffic conditions, this segment is projected to operate at LOS D in the westbound direction during the peak hours. Under cumulative plus project conditions, it would continue to operate at LOS D in the westbound direction. This segment would degrade from LOS C to LOS D in the eastbound direction during the weekday PM peak hour. Based on CVMP impact criteria, the project would have a potentially significant impact to this segment in the eastbound direction during the weekday PM peak hour.
- **Segment 13 – Highway 1 between Ribera Road and Highlands Inn (Caltrans).** Under cumulative traffic conditions, this segment is projected to operate at LOS D and E in the northbound and southbound directions during the peak hours. Under cumulative plus project conditions, it would continue to operate at LOS D and E, with an increased PTSF measure of effectiveness. Based on Caltrans impact criteria, the project would have a potentially significant impact to this segment during all peak hours.

Cumulative Plus Project Conditions Summary

Table 49 summarizes the project's traffic impacts relative to cumulative conditions and potential Mitigation Measures provided in the traffic study to address impacted roadways. As indicated in the table, all roadways that would operate at unacceptable levels with the project already operate at unacceptable levels under cumulative conditions except for Intersection 2. A total of six intersections and seven road segments would be degraded to a potentially significant degree by the project. Compared to existing plus project conditions, cumulative plus project conditions would additionally impact Intersections 2, 7, 12, and 13, and Segment 4; compared to background plus project conditions, cumulative plus project conditions would additionally impact Intersections 7 and 13.

Table 49 Cumulative Conditions: Project Impacts to Degraded Roadways and Potential Mitigation

Study Intersection/ Road Segments	Unacceptable LOS under Cumulative Conditions	Unacceptable LOS under Cumulative + Project Conditions	Potentially Significant Project Impact	Potential Mitigation Provided in Traffic Study
Intersection 2 – Carmel Rancho Boulevard/Carmel Valley Road		X	X	The addition of an eastbound right-turn overlap phase would reduce delay at this intersection, but it would still operate at a deficient LOS D during the PM peak hour under cumulative plus project traffic conditions.
Intersection 3 – Highway 1/Rio Road (Caltrans)	X	X	X	TAMC planned improvements at the Highway 1/Rio Road intersection include converting the northbound Highway 1 right-turn lane to a shared through/right-turn lane, and an additional southbound through lane. With these improvements, in addition to a second westbound left-turn lane (MM T-1), the intersection would still operate at a deficient LOS D during the PM and Saturday peak hours, but would

Study Intersection/ Road Segments	Unacceptable LOS under Cumulative Conditions	Unacceptable LOS under Cumulative + Project Conditions	Potentially Significant Project Impact	Potential Mitigation Provided in Traffic Study
				have less delay than under existing conditions.
Intersection 7 – Highway 1/Ocean Avenue	X	X	X	There are no planned or funded improvements at this intersection.
Intersection 8 – Highway 1/ Carpenter Street (Caltrans)	X	X	X	With the addition of a third northbound through lane, this intersection would operate at an acceptable LOS C during the weekday AM, PM, and Saturday peak hours under cumulative plus project traffic conditions. This improvement is not planned or funded.
Intersection 12 – Valley Greens Drive/Carmel Valley Road (CVMP)	X	X	X	Converting this intersection from two-way stop control to a roundabout would result in acceptable traffic operations during the weekday AM, PM, and Saturday peak hours under cumulative plus project traffic conditions. This improvement is planned and funded through payment of CVTIP impact fees. A traffic signal is an alternative improvement.
Intersection 13 – Highway 1/Ribera Road	X	X	X	There are no planned or funded improvements at this intersection.
Segment 2 – SB Highway 1: Ocean Ave to Carmel Valley Rd (Caltrans)	X	X	X	The construction of a second southbound lane on SR 1 between Ocean Avenue and Carmel Valley Road would result in acceptable traffic operations. However, this improvement is not planned or funded.
Segment 3 – NB & SB SR 1: Carmel Valley Rd to Rio Rd (Caltrans)	X	X	X	TAMC planned improvements at the Highway 1/Rio Road intersection include converting the northbound Highway 1 right-turn lane to a shared through/right-turn lane, and an additional southbound through lane. This would improve traffic operations to an acceptable level.
Segment 4 – NB & SB Highway 1: Rio Road to Ribera Road (Caltrans)	X	X	X	Widening this segment to four lanes would improve operations to an acceptable level. However, this improvement is not planned or funded. It also would not be consistent with California Coastal

Study Intersection/ Road Segments	Unacceptable LOS under Cumulative Conditions	Unacceptable LOS under Cumulative + Project Conditions	Potentially Significant Project Impact	Potential Mitigation Provided in Traffic Study
				Act Policy 30254 which states that "it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road."
Segment 6 – EB & WB Carmel Valley Rd: Robinson Canyon Rd to Schulte Rd (CVMP)	X	X	X	Widening this segment to two lanes in each direction would result in acceptable traffic operations. However, this improvement is not planned or funded.
Segment 7 – EB & WB Carmel Valley Rd: Schulte Rd to Rancho San Carlos Rd (CVMP)	X	X	X	Widening this segment to two lanes in each direction would result in acceptable traffic operations. However, this improvement is not planned or funded.
Segment 12 – WB Rio Road: Carmel Rancho Blvd to Highway 1 (CVMP)	X	X	X	The construction of a third eastbound lane on Rio Road between Carmel Rancho Boulevard and Highway 1 would result in acceptable traffic operations. However, this improvement is not planned or funded.
Segment 13 – NB & SB Highway 1: Ribera Rd to Highlands Inn	X	X	X	Widening this segment to four lanes would improve operations to an acceptable level. However, this improvement is not planned or funded. It also would not be consistent with California Coastal Act Policy 30254 which states that "it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road."

Source: KHTE 2017

Mitigation Measures

Based on the impact analysis in the traffic study summarized above, four intersections and seven road segments require mitigation under cumulative plus project conditions. Incorporation of Mitigation Measure T-1 would be required to reduce project impacts on area traffic.

Significance After Mitigation

While the proposed project's impact to Intersection 3 in the northbound direction and Segment 3 would be eliminated with planned improvements in the TAMC RTP and implementation of Mitigation Measure T-1 under conditional plus project conditions, the construction of these planned improvements is dependent on STIP funding, which is not guaranteed at this time. Participation in funding these improvements – as is required through payment of TAMC impact fees – would

partially reduce impacts. However, because complete funding cannot be guaranteed and timing of the planned improvements cannot be assured, impacts would remain significant and unavoidable.

The conversion of Intersection 12 (Valley Greens Drive/Carmel Valley Road) from a two-way stop control to a roundabout is already planned by the County and the project would be required to make a fair share contribution to this improvement through payment of the CVTIP impact fee. This would reduce the project's impact to this intersection to a less than significant level. Improvements to the remaining intersections and road segments would be infeasible because there is no available mechanism for the project to fund these improvements. Impacts to these road segments would remain significant and unavoidable.

To summarize, project impacts to the following intersections and road segments would remain significant and unavoidable under cumulative plus project conditions:

- Intersection 2 – Carmel Rancho Boulevard/Carmel Valley Road
- Intersection 3 – Highway 1/Rio Road
- Intersection 7 – Highway 1/Ocean Avenue
- Intersection 8 – Highway 1/Carpenter Street
- Intersection 13 – Highway 1/Ribera Road
- Segment 2 – Southbound Highway 1: Ocean Ave to Carmel Valley Road
- Segment 3 – Highway 1: Carmel Valley Road to Rio Road
- Segment 4 – Highway 1: Rio Road to Ribera Road
- Segment 6 – Carmel Valley Road: Robinson Canyon Road to Schulte Road),
- Segment 7 – Carmel Valley Road: Schulte Road to Rancho San Carlos Road
- Segment 12 – Rio Road: Carmel Rancho Blvd to Highway 1
- Segment 13 – Highway 1: Ribera Road to Highlands Inn

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4.9 Effects Found Not to be Significant

Section 15128 of the *CEQA Guidelines* requires an EIR to briefly describe any possible significant effects that were determined not to be significant and were, therefore, not discussed in detail. This section addresses the potential environmental effects of the proposed project that were determined not be significant. The topics listed below that were found not to be significantly affected by the proposed project are drawn from the environmental checklist form included in Appendix G of the *CEQA Guidelines*. Any items not addressed in this section are addressed in Section 4.0 of this EIR.

4.9.1 Aesthetics

Thresholds of Significance

Pursuant to the *CEQA Guidelines*, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

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

All four thresholds are discussed below.

Assessment of Impacts

Scenic Vistas

Highway 1, an officially designated State Scenic Highway, runs north to south approximately 375 feet from the project site (Caltrans 2017). In general, scenic elements visible from Highway 1 in the mouth of the Valley include the surrounding hillsides, mature trees, and habitat along the Carmel River. Further south, views along Highway 1 open up to Monastery Beach and the Pacific Ocean. Within the project vicinity, looking east along Highway 1 and looking northeast from the Highway 1/Rio Road intersection, existing structures (i.e., the Carmel River Inn and the Chevron Gas Station) largely block views of the site with the exception of the mature ornamental Monterey cypress trees that line the northwest end of the project site and partial views of the tops of Mixed Woodland. Figure 42, Photo 1, shows the view of the project site from the Highway 1/Rio Road intersection. The majority of the Monterey Cypress trees, located along the northwest end of the project site, visible from Highway 1 would remain; one tree (Tree 58) would be removed in this area (C3 Engineering 2017). As shown in Figure 17 of Section 4.2, *Biological Resources*, Mixed Woodland currently covers approximately 0.8-acre of the site; species observed include coast live oak (*Quercus agrifolia*), ornamental redwoods (*Sequoia sempervirens*), Hollywood juniper (*Juniperus chinensis*), willow (*Salix* sp.), English ivy (*Hedera helix*), and California buckeye (*Aesculus californica*. The majority of the Mixed Woodland habitat, partially visible from Highway 1, would be removed for the retail commercial development; approximately twenty-seven of the trees within this habitat would

be removed and twelve would remain. The project would include the installation of twenty-seven new trees (i.e., twelve coast live oak, ten honey locust, and five swan hill fruitless olive). In addition to trees, a combination of California native and drought tolerant shrubs, groundcovers, and grasses would be installed, enhancing the visual quality of the site. Although the project would include tree removal, the removal of these trees would not result in a substantial degradation of scenic views from Highway 1, and the project would include the installation of new trees which would partially replace this component of the features of the view. Further, the most prominent mature ornamental Monterey cypress trees visible from Highway 1 would remain intact. Therefore, the project would not result in a substantially adverse impact on scenic vistas from Highway 1; impacts would be less than significant as related to Threshold 1.

The Monterey County General Plan (2010) also designates Carmel Valley Road as a proposed scenic highway/route. Carmel Valley Road is located approximately 1,300 miles north of the project site. Due to intervening topography, trees, and structures off-site, the project site is not visible from Carmel Valley Road.

In addition to designated scenic road corridors, views of scenic hillsides are available from public viewpoints, specifically Rio Road fronting the project south of the project site. As shown on Figure 42, Photo 2, looking northwest from the project site, partial hillside views are visible in the distance; however, trees and structures currently block most of these hillsides from view. Hillside views are not available looking through the site to the northeast as shown on Figure 43, Photo 3.

In addition, the proposed development would be subject to local zoning standards and General Plan policies to protect scenic qualities. Monterey County General Plan Policy OS-1.1 encourages voluntary restrictions to the development potential of property located in designated visually sensitive areas. The Monterey County General Plan (2010), Greater Monterey Peninsula Scenic Highway Corridors and Visual Sensitivity Map, designates the site as a visually sensitive area. General Plan Policy OS-1.2 requires development in designated visually sensitive areas to be subordinate to the natural features of the area. General Plan Policy OS-1.9 encourages development to protect and enhance the County's scenic qualities. Further, Carmel Valley Policy CV-1.20 requires the application of a Design Control "D" overlay district to the Carmel Valley area. Thus, the project is located in a Design Control "D" District. Policy CV-1.20 states that development in the "D" District shall be visually compatible with the character of the valley and immediate surrounding areas or shall enhance the quality of areas that have been degraded by existing development. Monterey County Code Chapter 21.44 states that the purpose of this district is to provide for the regulation of location, size, configuration, materials, and colors of structures and fences in those areas of the County where the design review of structures is appropriate to assure protection of the public viewshed, neighborhood character, and to assure the visual integrity of certain developments without imposing undue restrictions on private property. The project would require Design Approval by the Monterey County Resource Management Agency (RMA). The purpose of the "D" District is to assure the protection of the public viewshed and to assure the visual integrity of the development; therefore, the project would not substantially degrade the public viewshed of the hillsides partially visible to the north from Rio Road. The project would have a less than significant impact on scenic vistas as related to Threshold 1.

Figure 42 Site Photographs

Photo 1: View from Highway 1 at its intersection with Rio Road intersection, looking southeast toward the project site.

Photo 2: View from Highway 1, looking northwest from the south end of the site near Rio Road.

Figure 43 Site Photographs

Photo 3: View looking north from the center of the project site.

Photo 4: View looking southeast from the back of the project site.

Scenic Resources

The Monterey County General Plan (2010), Greater Monterey Peninsula Scenic Highway Corridors and Visual Sensitivity Map, designates the site and areas along the Carmel River and Carmel Valley Road as visually sensitive areas. The General Plan does not specifically state what resources in a visually sensitive area should be protected, but policies within the General Plan indicate that hillsides, ridges, and watersheds should be protected. As stated under Threshold 1 above, views of the project site from Highway 1 are largely blocked by structures; however, mature Cypress trees and Mixed Woodland habitat is partially visible from Highway 1. The majority of the Monterey Cypress trees, located along the northwest end of the project site would remain; one tree (Tree 58) would be removed in this area (C3 Engineering 2017). Although the project would include tree removal, the tree canopy would predominantly remain intact. The majority of the Oak Woodland habitat, partially visible from Highway 1, would be removed for the retail commercial development; approximately twenty-seven of the trees within this habitat would be removed and twelve would remain. Although 27 trees within the Mixed Woodland would be removed, the project would include the installation of twenty-seven new trees; therefore, maintaining a comparable scenic value as the planted trees reach maturity. Further, the project site does not include other scenic resources, such as rock outcroppings or historic buildings. Therefore, impacts on scenic resources, as it relates to Threshold 2, would be less than significant.

Visual Character and Quality

The project would introduce commercial retail development on an undeveloped 3.8-acre site with mature trees and other vegetation including non-native grasses and landscaping. A portion of the site includes a paved driveway entrance, an unimproved driveway, two wells, utility connections, a section of the Carmel Mission Inn parking lot, and an existing above-ground propane tank and shed building. The project would involve a substantial change in the visual character of the site from generally open grassland with scattered trees in the eastern portion of the site and trees along the eastern and northern boundaries to a commercial development. However, the site is surrounded on all sides by urban development, and the project's proposed one-story buildings would be consistent with the existing development pattern. In addition, although 35 trees would be removed, the landscape plan includes preservation of a number of the mature trees as well as installation of 27 new trees (12 coast live oak, ten honey locust, and five swan hill fruitless olive). In addition to trees, a combination of California native and drought tolerant shrubs, groundcovers, and grasses would be installed. For example, landscaping would be installed in bioretention ponds, parking islands, the perimeter of the site, pedestrian seating areas, and on the canopy of the convenience market/grocery store (a vegetated canopy roof is proposed). Natural landscape materials such as granite rock seat walls and horizontal cedar plank fencing would further soften the appearance of the buildings and parking lot. Therefore, although the visual character of the site would be substantially altered, the project would continue to provide a generally moderate level of visual quality and character through architectural design, landscaping and tree retention, and would be consistent with the character of surrounding development. Finally, as discussed above, the project would require Design Approval by the Monterey County Resource Management Agency (RMA). The purpose of the "D" District is to assure the protection of the public viewshed and to assure the visual integrity of the development. The project would have a less than significant impact on visual quality and visual character as it relates to Threshold 3.

Light/Glare

Monterey County Code Section 21.18.070(e), *Site Development Standards*, requires any new development in the Light Commercial District to be consistent with the Design Guidelines for Exterior Lighting. Monterey County Code Section 21.63.020, *Design Guidelines for Exterior Lighting*, requires fixtures to be designed so as to make exterior lighting unobtrusive, to reduce off-site glare, and light only the intended area. These guidelines are enforceable by the Director of Planning. The project would be required to comply with the County requirements for exterior lighting and the site is located on an infill site surrounded by other development that has exterior lighting; therefore, impacts related to Threshold 4 would be less than significant.

4.9.2 Agriculture and Forestry

Thresholds of Significance

Pursuant to the State CEQA Guidelines, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

1) Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
2) Conflict with existing zoning for agricultural use, or a Williamson Act contract;
3) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g));
4) Result in the loss of forest land or conversion of forest land to non-forest use; and/or
5) 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.

Assessment of Impacts

The project site is not designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (Farmland), nor is the site zoned for agriculture or under a Williamson Act contract. The project site is designated as Urban and Built-Up Land on the Farmland Mapping and Monitoring Program (FMMP) Monterey County Important Farmland map (California Department of Conservation 2014, 2016). Therefore, the project would not result in impacts to FMMP farmland or conflict with existing zoning for agricultural use or Williamson Act contract land. The site is not zoned or uses for agricultural production. Therefore, the project would have no impact to agriculture as related to Thresholds 1, 2, and 5.

As detailed in Section 4.2, *Biological Resources*, the project site contains oak woodland habitat. Implementation of the project would require vegetation clearing prior to construction, including the removal of thirty-five trees. The oak woodland habitat does not meet the definition of forest land as defined in Public Resources Code Section 12220(g), or timberland, as defined by Public Resources Code Section 4526. Further, the site is zoned for light commercial use, not forest land or timber land production; therefore, the project would not conflict with existing zoning for, or cause rezoning of, forest land, timber land or conversion of forest land to non-forest use. Further, there is no forest

land near the project site. Therefore, there would be no impact to forest land as related to Threshold 3, 4 and 5.

4.9.3 Air Quality

Thresholds of Significance

Pursuant to the State CEQA Guidelines, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

1) Conflict with or obstruct implementation of the applicable air quality plan;
2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
4) Expose sensitive receptors to substantial pollutant concentrations; and/or
5) Create objectionable odors affecting a substantial number of people.

Thresholds 2 through 5 are discussed in Section 4.1, *Air Quality.* Threshold 1 is discussed below.

Assessment of Impacts

CEQA Guidelines §15125(b) requires that an EIR evaluate a project's consistency with applicable regional plans, in this instance, the 2012-2015 AQMP. The MBARD issues consistency determinations in order to assess the potential cumulative impacts of development on regional air quality. Project emissions which are not consistent with the AQMP are not accommodated in the AQMP and would represent a potentially significant impact for the purposes of CEQA.

As described in Section 5.5 of the *Air Quality Guidelines*, a commercial project would be consistent with the AQMP if: 1) the current population does not exceed the applicable 5-year increment population forecast contained in the AQMP and, 2) if the project would emit less than 137 lbs/day of VOC or NO_x. The 2012-2015 AQMP relied on the 2008 population forecast conducted by AMBAG, which projects that the 2020 population for unincorporated Monterey County will be 113,778 persons (AMBAG 2008). The estimated 2017 population for unincorporated Monterey County provided by the California Department of Finance (DOF) is 107,009 (DOF 2017). Therefore, the current population does not exceed AQMP population forecasts. In addition, as shown in Section 4.1, *Air Quality*, Table 10, Estimated Construction Emissions, and Table 11, Estimated Operational Emissions, project construction and operation would emit fewer than 137 lbs/day of VOC and NO_x. Therefore, there would be no impact.

4.9.4 Biological Resources

Thresholds of Significance

Pursuant to the State CEQA Guidelines, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

1) 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 California Department of Fish and Game or U.S. Fish and Wildlife Service;
2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
3) Have a substantial adverse effect on federally protected wetlands as defined by section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or
6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

Thresholds 1 and 5 are discussed in Section 4.2, *Biological Resources.* Thresholds 2, 3, 4, and 6 are discussed below.

Assessment of Impacts

Sensitive vegetation communities, including riparian habitat, are not present on the project site and do not have the potential to occur. Vegetation community mapping for the project site is based on aerial imagery, a reconnaissance survey completed by Rincon Consultants, Inc. on August 31, 2017, and desktop review of available biological information. Vegetation classification was based on *A Manual of California Vegetation, Second Edition* (Sawyer et al., 2009) and *Preliminary Descriptions of the Terrestrial Communities of California* (Holland, 1986); however, classifications have been modified as needed to accurately describe the existing habitats observed on-site. The project site was determined to contain two vegetation communities, Non-Native Annual Grassland and Mixed Woodland (see Figure 17 and Table 14, Section 4.2, *Biological Resources*), which are not considered sensitive under the CDFW's classification system. Therefore, no impacts to these resources would occur as related to Threshold 2.

No federal wetlands or other jurisdictional features are present on-site. Historical maps show a tributary of the Carmel River running through the east side of the project site, but the tributary was diverted to an underground culvert during construction the Barnyard Shopping Village and Crossroads Carmel shopping center, and no longer crosses the project site. Therefore, no impacts to these resources would occur as related to Threshold 3.

The project site is geographically situated in a well-developed urban setting and does not provide habitat value suitable to support a migratory or movement corridor. No wildlife corridors are present on the project site. Therefore, no impacts to these resources would occur as related to Threshold 4.

The proposed project is not located within the boundaries of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved conservation agreement within the County. Therefore, no impacts to these resources would occur as related to Threshold 6.

4.9.5 Cultural, Tribal Cultural, and Paleontological Resources

Thresholds of Significance

Pursuant to the State CEQA Guidelines, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

1) Cause a substantial adverse change in the significance of an historical resource as defined in section 15064.5;
2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5;
3) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature of paleontological or cultural value; and/or
4) Disturb any human remains, including those interred outside of dedicated cemeteries.
5) Would the project 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 the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
    b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

All of the above thresholds are discussed in Section 4.4, *Cultural, Tribal Cultural, and Paleontological Resources*.

4.9.6 Geology and Soils

Thresholds of Significance

Pursuant to the State CEQA Guidelines, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

1) 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;

ii. Strong seismic shaking

iii. Seismic-related ground failure, including liquefaction,

iv. Landslides;

2) Result in substantial soil erosion or the loss of topsoil;

3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;

4) 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; and/or

5) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Thresholds 1 through 4 are discussed in Section 4.5, *Geology and Soils.* Threshold 5 is discussed below.

Assessment of Impacts

There are no faults mapped on or adjacent to the project site and the project site is not located in an Alquist-Priolo Earthquake Fault Zone. The potential for surface ground rupture is therefore considered low. The project site is relatively flat and would not be subject to the risk of landslides. Therefore, no impacts would occur related to Threshold 1.i and 1.iv.

Wastewater from the project site would be collected and conveyed through a conventional gravity system to an existing Carmel Area Wastewater District sanitary sewer main. The project would not require the use of septic tanks or alternative waste water disposal systems. Therefore, there would be no impact related to Threshold 5.

4.9.7 Greenhouse Gas Emissions

Thresholds of Significance

Pursuant to the State CEQA Guidelines, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or

2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Thresholds 1 and 2 are analyzed in Section 4.3, *Greenhouse Gas Emissions.*

4.9.8 Hazards/Hazardous Materials

Thresholds of Significance

Pursuant to the State CEQA Guidelines, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
2) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school;
4) Be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
5) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;
6) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;
7) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; and/or
8) 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.

All of the above thresholds are analyzed below.

Assessment of Impacts

The proposed project would involve the transport, use, storage, and disposal of hazardous materials due to the nature of the proposed use. However, the proposed project would be required to comply with U.S. EPA Hazardous Materials Transportation Act, Title 42, Section 11022 of the U.S. Code and Chapter 6.95 of the California Health and safety Code, which requires the reporting of hazardous materials when used or stored in certain quantities. Furthermore, the State of California requires an owner or operator of a facility to complete and submit a Hazardous Material Business Plan (HMBP) if the facility handles a hazardous material or mixture containing a hazardous material that has a quantity at any one time during the reporting year equal to or greater than (Monterey County 2017):

- 55 gallons (liquids),
- 500 pounds (solids), or
- 200 cubic feet for a compressed gas.

In addition, hazardous materials stored or used at retail uses would be limited to typical solvents, paints, chemicals used for cleaning and building maintenance, and landscaping supplies. These materials would not be substantially different from household chemicals and solvents already in general and wide use throughout the County of Monterey and in the vicinity of the project site. The majority of commercial vehicles transporting hazardous materials near the site would utilize Highway 1, located approximately 400 feet west of the project site, or Carmel Valley Road, located approximately 1,500 feet north of the project site, as well as Rio Road, which abuts the site to the

south. Because the U.S. EPA and U.S. Department of Transportation (DOT) laws and regulations track and manage the safe interstate transportation of hazardous materials and waste, impacts related to Thresholds 1 and 2 would be less than significant.

Carmel Middle School, located at 4380 Carmel Valley Road, would be the nearest school at approximately 0.4-mile northeast of the project site. Thus, the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. In addition, the Monterey Regional Airport, the closest public-use airport, is located approximately 4.5 miles northeast of the project site. Thus, the project site would not be located within two miles of a public-use airport or included in an airport land use plan. Similarly, no private airstrips are currently located within the vicinity of the project site. As a result, the project would have no impact related to Thresholds 3, 5, or 6.

The Cortese List includes hazardous waste facilities, contaminated drinking water wells, sites listed as having underground storage tank leaks that have discharge into surface water or groundwater, and other sites that have had a known migration of hazardous materials or waste. A review of the California Department of Toxic Substances Control (DTSC) Envirostor Hazardous Facility Database, State Water Resources Control Board (SWRCB) GeoTracker Database, and U.S. EPA CERCLIS Database revealed that the proposed project site is not included on these lists. Furthermore, the only nearby identified sites were closed cases, and no known environmental sites of concern are located within one mile of the project site (DTSC 2017; SWRCB 2017; U.S. EPA 2017). Therefore, no impacts related to Threshold 4 would occur.

The California Department of Forestry and Fire Protection (CALFIRE) publishes fire hazard severity zone maps for both State Responsibility Areas (SRA) and Local Responsibility Areas (LRA). The project site is not located in an area designated as a medium, high, or very high fire hazard severity zone in the CALFIRE SRA map (CALFIRE 2007), and is located in an area designated as “Non-VHFHSZ” (Non-Very High Fire Hazard Severity Zone) in the CALFIRE LRA map (CALFIRE 2008). In addition, the project site is surrounded by urban land uses and would be required to comply with applicable standards set forth in the Fire Code, California Building Code (CBC), the Carmel Valley Master Plan, Monterey County General Plan Safety Element, and the Monterey County’s Emergency Operations Plan. Standards would include the use of fire-retardant building materials and the installation of automatic fire sprinkler systems. Pursuant to compliance with these existing requirements, the proposed project would not impair the implementation of or physical interfere with an adopted emergency response plan or emergency evacuation plan or expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas. As a result, impacts related to Thresholds 7 and 8 would be less than significant.

4.9.9 Hydrology and Water Quality

Thresholds of Significance

Pursuant to the State CEQA Guidelines, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

1) Violate any water quality standards or waste discharge requirements;
2) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;

3) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
4) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
5) 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;
6) 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;
7) Otherwise substantially degrade water quality;
8) 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;
9) Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
10) 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; and/or
11) Be subject to inundation by seiche, tsunami, or mudflow.
12) Have insufficient water supplies available to serve the project from the exiting entitlements and resources, such that new or expanded entitlements are needed.

As discussed in Section 2.0, *Project Description*, the project does not propose housing; therefore, the project would not place housing within a 100-year flood hazard area. As a result, no impact related to Threshold 8 would occur.

As discussed in Section 4.9, *Hydrology and Water Quality,* according to the Tsunami Inundation Map for Emergency Planning for the Monterey Quadrangle, a tsunami could inundate up to 0.6-mile inland from the mouth of the Carmel River (Monterey County 2015a). The project site is located approximately 1.1-mile inland from the shoreline and is not within the tsunami inundation zone. Because seiches inherently exist in enclosed bodies of water, only land adjacent to or within the bodies of water can be impacted. The project site is not located near any large inland water bodies and would not be subject to impacts from seiches. Further, the project site is generally flat, with a very slight slope towards the south. Much of the land surrounding the project site is either developed and paved or covered with mature, established vegetation. Stormwater runoff is managed through a regional stormwater conveyance system. The probability of mudflow across the project site is very low. As a result, no impacts related to Threshold 11 would occur.

Thresholds 1 through 7, 9, 10, and 12 are discussed in Section 4.6, *Hydrology and Water Quality.*

Assessment of Impacts

The project site is not located near a large body of water and is located 0.7-mile from the Pacific Ocean; therefore, the project site would not be subject to inundation by seiche or tsunami. The project site is relatively flat and is not located adjacent to hillsides that could be susceptible to mudflow. Impacts as related to Threshold 10 would be less than significant.

4.9.10 Land Use and Planning

Thresholds of Significance

Pursuant to the State CEQA Guidelines, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

1) Physically divide an established community;
2) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; and/or
3) Conflict with any applicable habitat conservation plan or natural community conservation plan.

All three thresholds are discussed below.

Assessment of Impacts

The project would not physically divide an established community. The project site is located on an infill site in an established commercial area in the mouth of Carmel Valley. The project is bordered by the Chevron Gas Station to the west, by the Carmel Mission Inn to the north, by two-story professional offices and mixed-use professional office/residential to the east, and by Rio Road and Crossroads Shopping Center to the south. Therefore, the project would result in no impact as related to Threshold 1. The project would not conflict with the Monterey County General Plan or the CVMP. The existing land use designation of the project site in the CVMP is Commercial, and the zoning designation is Light Commercial, Design Control, Site Plan Review, and Residential Allocation Zoning (LC-D-S-RAZ). The proposed commercial use would be allowable under the existing land use and zone designations; however, it would require permits as discussed in Section 2.7, Required Approvals (Project Description). Further, the project would not require amendments to the County's General Plan or the Monterey County Code.

The project would be consistent with the following CVMP policies related to commercial development:

- **CVMP Policy CV-1.1** requires development follow a rural architectural theme with design review.
- **CVMP Policy CV-1.12** requires areas designated for commercial development in the valley to be placed in design control overlay districts ("D"); have planted landscaping covering no less than 10 percent of the site; and provide adequate parking.
- **CVMP Policy CV-1.21** requires commercial buildings meet the following guidelines: a) Buildings shall be limited to 35 feet in height and shall have mechanical apparatus adequately screened, especially on roofs; b) Commercial projects shall include landscaping that incorporates large-growing street trees. Parking areas shall be screened with exclusive use of native plants and compatible plant materials. Land sculpturing should be used where appropriate.

- **CVMP Policy CV-3.10** requires the predominant landscaping and erosion control material to consist of plants native to the valley or plants compatible with native species that are similar in habitat, form, and water requirements.
- **CVMP Policy CV-3.11** states that the County shall discourage the removal of healthy native oak trees in the CVMP area. A permit shall be required for the removal of any trees.
- **CVMP Policy CV-5.6** requires containment structures or other measures to control the runoff of pollutants form commercial areas.

The project would be consistent with CVMP Policy CV-1.1, CV-1.12, and CV-1.21. The design theme for the main building, the convenience market/grocery store, and the Store A building, is rural agricultural-industrial architecture, which is intended to reflect the agricultural nature of Carmel Valley. The project is located in a design control district "D;" therefore, County staff would review the proposed architecture, landscaping, and parking for compliance with the General Plan policies and County Code requirements. The project would also be consistent with Policy CV-3.11. As described in Section 4.2, *Biological Resources*, the site contains Mixed Woodland habitat. Implementation of the project would require vegetation clearing prior to construction, including the removal of thirty-five trees. Since more than three trees are proposed for removal, the proposed project would be required to prepare a Forest Management Plan for removal of any trees with a trunk diameter in excess of six inches, measured two feet above ground level, in accordance with tree removal permit requirements. Pursuant to receipt of a tree removal permit, the project would comply with Policy CV-3.11. The project would result in less than significant impacts, either with or without mitigation, to air quality, biological resources, cultural resources, tribal resources, and paleontological resources. The proposed project would not conflict with any land use policies, plans or regulations adopted to protect these resources, since all impacts would be mitigated.

The project would result in significant and unavoidable impacts to both climate change and transportation. As discussed in Section 4.3, *Climate Change,* GHG emissions generated by the project would conflict with statewide policies adopted for the purpose of reducing GHG, such as AB 32. However, the project is consistent with the applicable policies in the 2010 Monterey County General Plan, as summarized in Table 18 of Section 4.3, *Climate Change*. Therefore, despite resulting in a significant and unavoidable impact, the project would not conflict with applicable county policies pertaining to GHG emissions.

As discussed in Section 4.8, *Transportation and Circulation*, increased delays at study area intersections or on roadway segments resulting from vehicle trips generated by the project would result in significant and unavoidable impacts related to transportation and circulation. However, the Traffic Impact Assessment prepared for the proposed project utilizes LOS standards identified in the Monterey County General Plan and CVMP, where applicable, in compliance with General Plan Policy C-1.1, and mitigation is applied to reduce impacts to the extent feasible. In addition, the project would be required to pay applicable traffic impact fees, consistent with General Plan Policy C-1.11. Lastly, the project would be developed in close proximity to existing transit opportunities, and would provide off-street parking, consistent with CVMP circulation policies.

Based on the analysis above, the proposed project would not be expected to conflict with any applicable land use plan, policy, or regulation of adopted for the purpose of avoiding or mitigating an environmental effect. Impacts as related to Threshold 2 would be less than significant.

The project site is not within an area subject to an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State conservation plan (CDFG

2017). Therefore, there would be no impact related to conflicts with such a plan as related to Threshold 3.

4.9.11 Mineral Resources

Thresholds of Significance

Pursuant to the State CEQA Guidelines, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

1) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State; and/or
2) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Both thresholds are discussed below.

Assessment of Impacts

The project site is not mapped as containing important mineral resources in the Monterey County General Plan, the Carmel Valley Master Plan, or the state Department of Conservation Mineral Land Classification Maps (DOC 2017). The project site is not utilized for mineral extraction. Therefore, the project would have no impact from the loss of availability of mineral resources as related to Threshold 1 and 2.

4.9.12 Noise

Thresholds of Significance

Pursuant to the State CEQA Guidelines, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

1) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
2) Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels;
3) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
5) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels; and/or
6) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

Thresholds 1 through 4 are discussed in Section 4.7, *Noise.* Thresholds 5 and 6 are discussed below.

Assessment of Impacts

The Monterey Regional Airport, the closest public-use airport, is located approximately 4.5 miles northeast of the project site. Given this distance, the project site is not included in an airport land use plan. There are no private airstrips in close proximity to the site. Therefore, the project would result in no impact related to Thresholds 5 and 6.

4.9.13 Population and Housing

Thresholds of Significance

Pursuant to the State CEQA Guidelines, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

1) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
2) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; and/or
3) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

All three thresholds are discussed below.

Assessment of Impacts

As discussed in Section 2, *Project Description*, the proposed project does not include residential uses and therefore would not directly generate population growth. However, the proposed project would accommodate between 175 and 250 new employees (full and part-time). Because the proposed project would include commercial retail development, it is anticipated that employment opportunities generated by the proposed project would generally draw workers primarily from the existing regional work force. Therefore, population growth associated with the proposed project would not result in significant long-term physical environmental impacts. Therefore, the project would not induce substantial population growth, either directly or indirectly, as related to Threshold 1.

The project involves a retail development on an undeveloped, infill site. No housing exists on the site. Therefore, the project would not displace any people or housing since the site is currently undeveloped. There would be no impact as related to Thresholds 2 and 3.

4.9.14 Public Services

Thresholds of Significance

Pursuant to the State CEQA Guidelines, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

1) 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:

i. Fire protection
ii. Police protection
iii. Schools
iv. Parks
v. Other public facilities

All of these thresholds are discussed below.

Assessment of Impacts

The proposed project would be located immediately adjacent to the nearest fire station, the Cypress Fire Protection District at 3775 Rio Road. The project site, located in an unincorporated area of the county, is under the jurisdiction of the Monterey County Sheriff's Office Coastal Substation, located at 1200 Aguajito Road in Monterey, near the intersection of Highway 1 and Aguajito Road. The project site is within the Beat 7 Area serviced by the Monterey County Sheriff's Office. The north and south boundaries of the Beat 7 Area extends along both sides of Highway 1 from Carmel High School to Rocky Point. The east and west boundaries of the Beat 7 Area are along both sides of Carmel Valley Road and Highway 1 to Rancho San Carlos Road. The proposed project would not introduce housing or new residents to the project site, and would therefore not generate demand for additional schools or parks. Employment opportunities generated by the proposed project would generally draw workers primarily from the existing regional workforce; thus, the project would not generate demand for these services indirectly by causing an influx of new workers and their families into the area. While the construction of the proposed project could increase the number of emergency calls to the area, it is not expected to be at a level that significantly impacts fire or ambulance services. Additionally, the proposed project would not require new or expanded facilities by the Cypress Fire Protection District (Edria 2017). In addition, while the Sheriff's Coastal Station has limited deputies to cover service of Beat 7 Area and deputies from the Central Station in Salinas are assigned to cover early morning shifts within the Beat 7 Area and other multiple beat area simultaneously, the Monterey County Sheriff's Office would not require new or expanded facilities to uphold policing service ratios or response times. As such, the proposed project would not result in substantial adverse physical impacts associated with the provision of or 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. As a result, the project would result in less than significant impacts as related to Threshold 1.

4.9.15 Recreation

Thresholds of Significance

Pursuant to the State CEQA Guidelines, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

1) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; and/or

2) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Thresholds 1 and 2 are discussed below.

Assessment of Impacts

The project would involve the construction of a retail development and would not introduce new residents into the area. As such, it would not substantially increase the use of parks nor require the construction or expansion of recreational facilities which may have an adverse physical effect on the environment. The proposed project itself does not include recreational facilities. Therefore, the project would result in a less than significant impact to parks related to Thresholds 1 and 2.

4.9.16 Transportation and Circulation

Thresholds of Significance

Pursuant to the State CEQA Guidelines, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

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;
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;
3) 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;
4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment);
5) Result in inadequate emergency access; and/or
6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Thresholds 1, 2, 4, 5, and 6 are discussed in Section 4.8, *Transportation and Circulation.* Threshold 3 is discussed below.

Assessment of Impacts

The proposed project includes the construction of commercial retail development within an already urbanized area. Monterey Regional Airport, the closest public-use airport, is located approximately 4.5 miles northeast of the project site. The project would not result in a change in air traffic patterns or otherwise create substantial safety risks related to this airport. There would be no impact as related to Threshold 3.

4.9.17 Utilities and Service Systems

Thresholds of Significance

Pursuant to the State CEQA Guidelines, Appendix G checklist, potentially significant impacts would occur if the proposed project would result in any of the following:

1) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
2) 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;
3) 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;
4) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;
5) 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;
6) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; and/or
7) Comply with federal, State, and local statutes and regulations related to solid waste.

Thresholds 3 and 4 are discussed in Section 4.6, *Hydrology and Water Quality.* Thresholds 1, 2, 5, 6 and 7 are discussed below.

Assessment of Impacts

As described in Section 2.0, Project Description, wastewater generated by the proposed project would be collected on-site and conveyed via a pipe connection to an existing 24-inch CAWD sanitary sewer main located beneath Rio Road. Wastewater collected on-site and conveyed to the sanitary sewer main would undergo treatment at the existing Carmel Area Wastewater Treatment Plant located west of Highway 1, approximately 0.5 mile west of the project site. The Carmel Area Wastewater Treatment Plant is a secondary type plant utilizing the activated sludge process for secondary treatment of wastewater. Treated wastewater, also known as effluent, is discharged from the treatment plant via pipe to the Carmel Bay or rerouted to golf course facilities in Pebble Beach to provide golf-course irrigation waters.

Requirements for discharges of effluent from wastewater treatment plants are established using state and federal water quality regulations. After treatment, wastewater effluent is either disposed of or reused as recycled water. The applicable RWQCB sets the specific requirements for community and individual wastewater treatment and disposal and reuse facilities through the issuance of Waste Discharge Requirements, required for wastewater treatment facilities under the California Water Code Section 13260. The treated wastewater discharged from the Carmel Area Wastewater Treatment Plant is regulated by the Central Coast RWQCB under the *Waste Discharge Requirements for the Carmel Area Wastewater District Treatment Plant* (Order No. R3-2014-0012, NPDES Permit No. CA0047996). The minimum initial dilution established in the NPDES permit at the point of discharge for operations by CAWD is 1:121 (parts effluent to seawater). The minimum initial dilution

is used by the Central Coast RWQCB to determine compliance with the water quality effluent limitations established in the NPDES permit for in-pipe water quality (i.e., prior to discharge) that are based on water quality objectives contained in the SWRCB's *Water Quality Control Plan for Ocean Waters of California* (or Ocean Plan) (2015). The effluent limitations in the permit are based on and are consistent with the water quality objectives contained in the Ocean Plan. The permit also lists discharges which are prohibited and requires regular water quality monitoring. Mandatory compliance with the NPDES permit for the Carmel Area Wastewater Treatment Plant would ensure that wastewater generated from the proposed project does not exceed treatment requirements. Impacts related to Threshold 1 would be less than significant.

According to CAWD (2017), the Carmel Area Wastewater Treatment Plant is designed to treat four million gallons per day of wastewater. Presently, the Carmel Area Wastewater Treatment Plant has a permitted capacity of three million gallons per day, which is described in the NPDES permit. The current average dry weather flow to the treatment plant is approximately 1.8 million gallons per day which represents 60 percent of the permitted capacity or 45 percent of design capacity (CAWD 2017). Monterey County does not currently publish wastewater generation rates. However, some other jurisdictions and municipalities in the State, such as the County of Los Angeles, publish wastewater generation rates for various types of land uses. According to the Sanitation District of Los Angeles County (1999), every 1,000 square feet of retail store space on a site will generate 80 gallons per day of wastewater. Using this rate, the proposed 43,210 square feet of retail space included in the proposed project would generate approximately 3,385 gallons per day of wastewater. This is consistent with a 2014 report published by the CAWD that shows two existing supermarkets in the Carmel area generated an average of 2,000 gallons per day of wastewater. Approximately 3,385 gallons per day would represent less than one percent of the remaining permitted capacity of the Carmel Area Wastewater Treatment Plant. Thus, the existing Carmel Area Wastewater Treatment Plant would have adequate capacity for the proposed project, and construction of a new treatment facility or expansion of the existing treatment plant would not be required. Impacts related to Thresholds 2 and 5 would be less than significant.

The proposed project would be served by the Monterey Regional Waste Management District (MRWMD). Solid waste is taken to Monterey Peninsula Landfill 14 miles northeast of the project site. The Monterey Peninsula Landfill currently receives approximately 490,000 tons per year of municipal solid waste for disposal and is expected to reach capacity in the year 2115 (MPWMD, 2016). An average commercial use produces 10.53 pounds of solid waste per employee day (City of Los Angeles, 2006). The proposed project would accommodate between 175 and 250 new employees (full and part-time). Assuming a maximum of 250 employees, the proposed project would generate 2,632.5 pounds of solid waste per day, or 480 tons of solid waste per year. This represents less than one percent of the waste currently received at the landfill. This waste production is prior to any recycling, composting, or other waste diversion programs. However, the State of California has mandated that solid waste diversion be at 50% since 2000 (AB 939). MRWMD has reached and surpassed the 50% diversion rate (MRWMD 2014 Annual Report). In 2013, a new goal was set of 75% waste diversion by the year 2020 (CalRecycle). MRWMD has multiple programs in place to continue compliance with waste diversion goals, including compost, recycling, materials recovery, and renewable energy generation. As the proposed project would be a part of MRWMD, the project would be in compliance with waste regulations. In addition, the additional contribution of solid waste from the proposed project to the landfill would not significantly reduce its capacity to serve Monterey County now or in the future. Impacts related to Thresholds 6 and 7 would be less than significant.

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5 Other CEQA Required Discussions

This section covers unique topics required to be addressed under the *CEQA Guidelines* including growth-inducing effects, significant irreversible changes, and energy effects as set forth in *CEQA Guidelines* Appendix F.

5.1 Growth-Inducing Effects

The *CEQA Guidelines* require a discussion of a project's potential to foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment, including, among others, ways in which a project could remove an obstacle to growth.

Growth inducement itself is not an environmental effect but has the potential to lead to environmental effects. These environmental effects may include increased demand on other community and public services and infrastructure. Depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. The project's growth-inducing potential is therefore considered significant if it could result in significant physical effects in one or more environmental issue area.

A project can have the potential to induce direct and/or indirect growth. A project would directly induce growth by resulting in construction of new housing. It is important to note that direct forms of growth have secondary effects of expanding the size of local markets and attracting additional economic activity to the area. A project would indirectly induce growth by resulting in:

- Substantial new permanent employment opportunities, for example, commercial or industrial development;
- A construction effort with substantial short-term employment opportunities that indirectly stimulates the need for additional housing and services to support the new temporary employment demand; and/or
- Removal of an obstacle to additional growth and development, such as removing a constraint on a required public utility or service; for example, construction of a major sewer line with excess capacity through an undeveloped area.

Typically, the growth-inducing potential of a project would be considered significant if it fosters growth or a concentration of population above what is assumed in local and regional land use plans, or in projections made by regional planning authorities. Significant growth impacts could also occur if the project provides infrastructure or service capacity to accommodate growth levels beyond those permitted by local or regional plans and policies.

5.1.1 Population Growth

As discussed in Section 2, *Project Description*, the proposed project does not include residential uses and therefore would not directly generate population growth. However, the proposed project would accommodate between 175 and 250 new employees (full and part-time). Because the proposed project would include commercial retail development, it is anticipated that employment opportunities generated by the proposed project would generally draw workers primarily from the

existing regional work force. Therefore, population growth associated with the proposed project would not result in significant long-term physical environmental impacts.

5.1.2 Economic Growth

The proposed project would generate temporary employment opportunities during construction. Because construction workers would be expected to be drawn from the existing regional work force, construction of the project would not be growth-inducing from a temporary employment stand-point. However, the proposed project would also add long-term employment opportunities associated with operation of a retail center.

AMBAG forecasts that 6,451 jobs will be added to unincorporated Monterey County between 2015 and 2040 (AMBAG 2017). The potential 250 jobs anticipated by the proposed retail development would represent approximately 3.9 percent of forecasted employment growth between 2015 and 2040; therefore the potential 250 jobs generated by the development would be well within employment AMBAG forecasts. The proposed project would not be expected to induce substantial economic expansion to the extent that direct physical environmental effects would result.

5.1.3 Removal of Obstacles to Growth

The proposed project is located in a relatively urbanized area and would be served by existing infrastructure. As discussed in Section 4.9.17, *Utilities and Service Systems*, existing water infrastructure would be adequate to serve the project. Minor improvements to drainage infrastructure would be needed, but would be sized to specifically serve the proposed project. Also discussed in Section 4.9.17, *Utilities and Service Systems*, the proposed project would be served by the Monterey Peninsula Landfill, and construction and operation of the proposed project would not exceed existing annual capacity for the landfill.

According to the traffic study prepared for the proposed project by Keith Higgins Traffic Engineer (KHTE) in December 2017 (Appendix G), changes in traffic volumes would degrade several nearby roadway segments and intersections to unacceptable levels of service. These nearby roadway segments and intersections would experience a significant and unavoidable impact. However, because the proposed project constitutes development in a relatively urbanized area and does not require the extension of new infrastructure through undeveloped areas, project implementation would not remove an obstacle to growth.

5.2 Significant and Irreversible Environmental Effects

The CEQA Guidelines require that EIRs contain a discussion of significant irreversible environmental changes. This section addresses non-renewable resources, the commitment of future generations to the proposed uses, and irreversible impacts associated with the proposed project.

The proposed project involves infill development on a currently undeveloped lot in the unincorporated area of Monterey County, approximately 2,500 feet southeast of the City of Carmel-by-the-Sea corporate boundary. Construction and operation of the project would involve an irreversible commitment of construction materials and non-renewable energy resources. The project would involve the use of building materials and energy, some of which are non-renewable resources, to construct the overall building floor area of 42,310 gross square feet. Consumption of these resources would occur with any development in the region, and are not unique to the proposed project.

The proposed project would also irreversibly increase local demand for non-renewable energy resources such as petroleum products and natural gas. However, increasingly efficient building design would offset this demand to some degree by reducing energy demands of the project. The project would be subject to the energy conservation requirements of the California Energy Code (Title 24, Part 6, of the California Code of Regulations, *California's Energy Efficiency Standards for Residential and Nonresidential Buildings*) and the California Green Building Standards Code (Title 24, Part 11 of the California Code of Regulations). The California Energy Code provides energy conservation standards for all new and renovated residential and nonresidential buildings constructed in California, and the Green Building Standards Code requires solar access, natural ventilation, and stormwater capture. Consequently, the project would not use unusual amounts of energy or construction materials and impacts related to consumption of non-renewable and slowly renewable resources would be less than significant. Again, consumption of these resources would occur with any development in the region, and is not unique to the proposed project.

Additional vehicle trips associated with the proposed project would increase local traffic, regional air pollutant concentrations, and GHG emissions. As discussed in Section 4.1, *Air Quality*, development and operation of the project would not generate air pollutant emissions that would result in a significant impact. Additionally, as discussed in Section 4.3, *Climate Change*, GHG emissions would not exceed SLOAPCD's efficiency threshold with mitigation implemented and would result in a less than significant impact. However, Section 4.8, *Transportation and Circulation*, identifies significant and unavoidable impacts related to traffic operations as a result of addition vehicle trips that would be generate by the project. CEQA requires decision-makers to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve a project. The analysis contained in this EIR concludes that the proposed project would result in a significant and unavoidable impact to transportation and circulation, as well as a significant and unavoidable cumulative impact to noise associated with increase traffic. As discussed in Section 4.8, *Transportation and Circulation,* no feasible Mitigation Measures have been identified that would reduce impacts to less than significant.

5.3 Energy Effects

Public Resources Code Section 21100(b)(2) and Appendix F of the CEQA Guidelines require that EIRs include a discussion of the potential energy consumption and/or conservation impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful or unnecessary consumption of energy.

The proposed project would involve the use of energy during the construction and operational phases of the project. Energy use during the construction phase would be in the form of fuel consumption (e.g., gasoline and diesel fuel) to operate heavy equipment, light-duty vehicles, and machinery. In addition, temporary grid power may also be provided to any temporary construction trailers or electric construction equipment. Long-term operation of the proposed project would require permanent grid connections for electricity and natural gas service to power internal and exterior building lighting, and heating and cooling systems.

Pacific Gas and Electric Co. (PG&E) would provide gas and electricity service for the proposed project. In 2015, PG&E's electricity power mix consisted of approximately 30 percent renewable energy sources (wind, geothermal, solar, small hydro, and biomass) (PG&E 2015). New technologies also offer the potential to capture methane, the primary ingredient in natural gas, from existing waste stream sources to make a renewable form of natural gas.

California used 282,896.3 gigawatt-hours (GWh) of electricity in 2015 (CEC 2017a) and 10,054.2 million therms of natural gas in 2015 (CEC 2017b). In addition, California's transportation sector, including on-road and rail transportation, consumed roughly 558.1 million bbl of petroleum fuels in 2015 (EIA 2017).

CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Further, the model identifies Mitigation Measures to reduce criteria pollutant and GHG emissions along with calculating the benefits achieved from measures chosen by the user. Complete CalEEMod results and assumptions can be viewed in Appendix B of this EIR. The proposed project's estimated motor vehicle fuel as calculated from CalEEMod is shown in Table 50.

Table 50 Estimated Project-Related Annual Motor Vehicle Fuel Consumption

Vehicle Type	Percent of Vehicle Trips[1]	Annual Vehicle Miles Traveled[2]	Average Fuel Economy (miles/gallon)[3]	Total Annual Fuel Consumption (gallons)
Passenger Cars	53.31	4,295,540	36.4	118,009
Light/Medium Trucks	37.47	3,019,008	23.5	128,468
Heavy Trucks/Other	8.13	655,045	7.7	85,071
Motorcycles	0.79	7,292	50	146
Total	100.00	8,057,133	–	331,694

[1] Percent of vehicle trips found in Table 4.4 "Fleet Mix" in CalEEMod output (see Appendix B)

[2] Mitigated annual VMT found in Table 4.2 "Trip Summary Information" in CalEEMod output (see Appendix B)

[3] Average fuel economy for light/medium trucks, heavy trucks/other, and motorcycles provided by the United States Department of Transportation, Bureau of Transportation Statistics (2010); average fuel economy for passenger vehicles provided by the United States Department of Transportation, Bureau of Transportation Statistics (2016).

Note: Totals may not add up due to rounding.

Total estimated energy usage for the proposed project, including motor vehicle fuel, is summarized and compared to statewide usage in Table 51. The proposed project would result in increased weekday trips, and vehicle miles traveled (VMT) as compared to the current site. However, the proposed project would make a minimal contribution to statewide energy consumption and would not adversely affect energy supplies.

Table 51 Estimated Project-Related Energy Usage Compared to State-Wide Energy Usage

Form of Energy	Units	Annual Project-Related Energy Use	Annual State-Wide Energy Use	Project percent of State-Wide Energy Use
Electricity	MWh	1,237[1]	282,896,300[2]	0.000004
Natural Gas	Therms	564,837,800[1]	2,313,000,000,000[3]	0.0002
Motor Vehicle Fuels	Gallons	331,694[4]	18,019,000,000[5]	0.00002

[1] Energy Use provided in the Initial Study(see Appendix B);

[2] California Energy Commission (CEC). 2017a. Electricity Consumption by Planning Area. Available at: http://ecdms.energy.ca.gov/elecbyplan.aspx. Accessed September 15, 2017.

[3] California Energy Commission (CEC). 2017b. Gas Consumption by Planning Area. Available at: http://ecdms.energy.ca.gov/gasbyplan.aspx. Accessed September 15, 2017.

[4] See Table 50.

[5] United States Information Energy Administration (EIA). 2017. CALIFORNIA: Table CT7. Transportation Sector Energy Consumption Estimates, 1960-2015, California. Available at: https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_use/tra/use_tra_CA.html&sid=CA. Accessed September 15, 2017.

As discussed previously, the proposed project would also be subject to the energy conservation requirements of the California Energy Code (Title 24 of the California Code of Regulations, Part 6 [24 CCR 6], *California's Energy Efficiency Standards for Residential and Nonresidential Buildings)* and the California Green Building Standards Code (24 CCR 11). The California Energy Code provides energy conservation standards for all new and renovated commercial buildings constructed in California. The Code applies to the building envelope, space-conditioning systems, and water-heating and lighting systems of buildings and appliances. The Code provides guidance on construction techniques to maximize energy conservation. Minimum efficiency standards are given for a variety of building elements, including: appliances; water and space heating and cooling equipment; and insulation for doors, pipes, walls and ceilings. The Code also emphasizes saving energy at peak periods and seasons and improving the quality of installation of energy efficiency measures. In addition, the California Green Building Standards Code sets targets for: energy efficiency; water consumption; dual plumbing systems for potable and recyclable water; diversion of construction waste from landfills; and use of environmentally sensitive materials in construction and design, including eco-friendly flooring, carpeting, paint, coatings, thermal insulation, and acoustical wall and ceiling panels.

Furthermore, the proposed project would be required to comply with Monterey County Code Chapter 18.06, *Energy Code*, which adopts the 2016 California Energy Code (24 CCR 6) as the Energy Code for the County of Monterey. In addition, the Monterey County General Plan Conservation and Open Space Element includes Goal OS-9, and associated policies, to promote efficient energy use. The following policies included under Goal OS-9, *Promote Efficient Energy Use*, are most applicable to the proposed project:

> **Policy OS-9.2.** Development shall be directed toward cities, Community Areas, and Rural Centers where energy expended for transportation and provisions of services can be minimized.
>
> **Policy OS-9.6.** Development shall incorporate features that reduce energy used for transportation, including pedestrian and bicycle pathways, access to transit, and roadway design as appropriate.

The project is consistent with Policy OS-9.2 as it would be located on an infill lot surrounded by development in the mouth of the Carmel Valley, and is located in proximity to the City of Carmel-by-the-Sea. The project is also consistent with Policy OS-9.6 as it would provide bicycle lockers (long term), bike racks (short term), and a relocated bus turnout along Rio Road. Further, the project site is located approximately 340 feet east of a regional bicycle trail running north to south and east of Highway 1; and an existing bus shelter along the Rio Road project frontage would provide bus service directly to and from the site.

Adherence to Title 24 and County energy conservation requirements would ensure that energy is not used in an inefficient, wasteful, or in an unnecessary manner.

6 Alternatives

As required by Section 15126.6(a) of the State CEQA Guidelines, this EIR examines alternatives to the proposed project that could feasibly achieve most of the basic project objectives, but would avoid or substantially lessen the project's significant environmental effects.

In identifying suitable alternatives, potential alternatives must be reviewed to determine whether they:

- Can avoid or substantially reduce significant environmental effects;
- Can attain most of the basic project objectives;
- Are potentially feasible; and
- Are reasonable and realistic.

Sections 15126.6(a) through (f) of the CEQA Guidelines provide the following additional guidance for discussing project alternatives:

- An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives.
- An EIR is not required to consider alternatives that are infeasible. The term "feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, technological and legal factors.
- The EIR must focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project.
- The alternatives discussed should be ones that offer substantial environmental advantages over the proposed project.
- The EIR should briefly describe the rationale for selecting the alternatives to be discussed, as well as any alternatives that the lead agency considered but rejected.
- The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis and comparison with the proposed project.
- The alternatives analysis discussed must be reasonable, and selected to foster informed decision-making and public participation. An EIR need not consider an alternative where the effect cannot reasonably be ascertained or where the implementation is remote or speculative, because unrealistic alternatives do not contribute to a useful analysis.

Consistent with the above parameters, included in this analysis are the CEQA-required "No Project" Alternative, as well as one additional alternative to the proposed project. The alternatives were selected for analysis because they are potentially feasible and may be able to reduce one or more of the significant adverse impacts associated with the proposed project. The alternatives are listed and summarized below, and subsequently discussed in greater detail within the impact analysis for each alternative:

- Alternative 1: No Project
- Alternative 2: Reduced Project

In conducting the alternatives analysis, as discussed previously, consideration must be given as to how, and to what extent, an alternative can meet the project's basic objectives. The objectives for the project, as listed in Section 2.0, *Project Description*, are as follows:

1. To develop a new retail center anchored by a specialty grocery store and complementary commercial uses to provide the local trade area with shopping alternatives in a high-quality shopping environment
2. To divert to the project shopping trips from Carmel Village, Carmel Valley, Carmel Highlands and Big Sur Coast currently destined for Monterey and Pacific Grove for shopping at Whole Foods, Trader Joe's and other specialty grocers
3. To contribute to the local economy through new capital investment, the creation of new employment opportunities, and the expansion of the County's tax revenues
4. To develop full-service retail uses near regional roadway and highway facilities, and near other commercial uses, to minimize travel lengths and utilize existing infrastructure to the maximum extent possible
5. To implement the County of Monterey General Plan
6. Implement a high-quality architectural design that improves the overall aesthetics of the project site and surrounding area

6.1 Alternative Considered but Rejected

The following alternative was considered but eliminated from further discussion for the reasons given below.

Section 15126.6 of the State CEQA Guidelines states that:

> "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason."

Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts. Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative.

6.1.1 Alternative Location

The California Supreme Court, in Citizens of Goleta Valley v. Board of Supervisors (1990), indicated that a discussion of alternative sites is needed if the project "may be feasibly accomplished in a successful manner considering the economic, environmental, social, and technological factors involved" at another site. Several criteria form the basis of whether alternative sites need to be considered in detail. These criteria take the form of the following questions:

- Could the size and other characteristics of another site physically accommodate the project?
- Is another site reasonably available for acquisition?
- Is the timing of carrying out development on an alternative site reasonable for the applicant?
- Is the project economically feasible on another site?
- What are the land use designation(s) of alternative sites?
- Does the lead agency have jurisdiction over alternative sites? and
- Are there any social, technological, or other factors which may make the consideration of alternative sites infeasible?

Site characteristics that could support a project that meets the project objectives include: appropriate size to accommodate an economically viable retail center; commercial use designation; and availability of appropriate urban services and characteristics, including relatively level terrain, available utilities, and existing roads. Alternative sites designated for agriculture, open space, resource conservation, and residential uses were rejected from consideration because retail development is not envisioned on these parcels under the Monterey County General Plan or the CVMP.

Figure 44 shows the existing commercial and retail zoning districts within approximately one mile of the project site. While there are properties in the project site vicinity envisioned for retail and commercial development under the CVMP and zoned for such uses, as shown on Figure 44, these parcels have been developed and are no longer vacant. Specifically, parcels north of the project site are designated as planned commercial use in the CVMP and zoned for commercial uses, but these parcels have been largely developed with the existing Carmel Rancho Shopping Center. Property zoned for commercial and retail uses south of the site, across Rio Road, are developed with the existing Crossroads Shopping Center.

The commercial and retail zoning district shown on Figure 44 west of Highway 1 is zoned visitor serving commercial uses. With a conditional permit, the zoning code allows for "retail stores and offices accessory to visitor serving uses." This may or may not include the proposed specialty market and other retail uses. Nonetheless, this site is developed with residential uses and a hotel. As shown of Figure 44, there are no other parcels within approximately one mile of the project site that are zoned for commercial or retail uses. The nearest parcels in the City of Carmel-by-the-Sea that are zoned for commercial uses are located north of 7th Avenue, which is approximately 1.2 miles from the project site. These parcels are in the central area of the City and already developed. Additionally, the project applicant does not own an additional property that could accommodate the retail development as currently proposed. Therefore, for the aforementioned reasons, an alternative site was not analyzed further.

Figure 44 Proximate Commercial and Retail Zoning Districts

Imagery provided by Google and its licensors © 2017. Additional data provided by Monterey County, 2016.

Fig X Nearby Commercial Zoning

6.2 Alternative 1: No Project Alternative

6.2.1 Description

The No Project Alternative assumes that the proposed project is not implemented, and that the project site remains in its current vacant state. Existing uses on the project site, including a section of the parking lot for an adjacent lodging/inn use, two wells, utility connections, and an existing above-ground propane tank and shed building located in the northern portion of the site, would remain and continued to be used at their current intensity or level. Although the project applicant could propose some other form of development on the site, or sell the property and that future owner could propose development, it would be speculative to attempt to analyze such unplanned or proposed development, which itself would require separate CEQA review, in this alternatives analysis.

6.2.2 Impacts

Aesthetics

The proposed project would not be implemented under the No Project Alternative, and the project site would remain in its current vacant state. Existing uses on the project site, including a section of the parking lot for an adjacent lodging/inn use, two wells, utility connections, and an existing above-ground propane tank and shed building located in the northern portion of the site, would remain and continued to be used at their current intensity or level. As existing uses, their continuation on the project site would not change the visual setting or appearance of the site or the larger landscape or viewshed that it is situated in. This alternative would have no impacts to aesthetics, which would be a lesser level of impact compared to the proposed project.

Agriculture and Forestry

As described in Section 4.9.2, *Agriculture and Forestry*, the project site is not zoned for agricultural use or identified as Important Farmland pursuant to the Farmland Mapping and Monitoring Program. Although woodland is present on the project site, it does not meet legal definitions of forestry resources, as described in Section 4.9.2, *Agriculture and Forestry*. As such, neither this alternative nor the proposed project would have impacts on agriculture and forestry resources.

Air Quality

As shown in Table 10 in Section 4.1, *Air Quality*, construction of the proposed project would generate between 0.2 and 99.9 pounds per day of emissions, depending on pollutant. The proposed project would not be constructed under implementation of the No Project Alternative, and this alternative would not generate construction-related emissions. Because the proposed project would not be constructed, the project site would remain vacant and operational emissions associated with the proposed project would not be generated. As shown in Table 11, as many as 0.3 to 136.8 pounds per day of operational emissions would be avoided, depending on the specific pollutant. The No Project Alternative would have no impacts on air quality, which would be a lesser level of impact compared to the proposed project.

Biological Resources

As described in Section 4.2, *Biological Resources*, construction of the proposed project would have potentially significant but mitigable impacts to special status species and habitat, including California red-legged frog and nesting migratory birds. The No Project Alternative would not involve construction of the proposed project or the associated ground disturbance. Thus, potentially significant but mitigable impacts to special status species and habitat would not occur under this alternative. Because the proposed project would not be constructed and the project site would remain vacant in its current state, removal of trees onsite would not be required under implementation of this alternative. The No Project Alternative would have no impact on biological resources, which would be a lesser level of impact compared to the proposed project.

Climate Change

As shown in Table 16 in Section 4.3, *Climate Change*, construction and operation of the proposed project would generate combined annual GHG emissions of 4,503.3 MT CO_2e, when construction emissions are amortized over operations. The No Project Alternative would not involve construction of the proposed project or its subsequent operation. Thus, the GHG emissions presented in Table 17 would not occur under this alternative. Because the No Project Alternative would not generate new sources of GHG emissions, it would have no impact on climate change. The potentially significant impacts on climate change that would occur under the proposed project would be avoided. Mitigation would not be required.

Cultural and Paleontological Resources

The No Project Alternative would not involve construction of the proposed project or any of the associated ground disturbance or excavation activities. Thus, the No Project Alternative would have no potential to unearth and impact previously unidentified or unknown paleontological and archaeological resources, as well as tribal cultural resources. The potentially significant but mitigable impacts of the proposed project would be avoided entirely. Impacts would be reduced when compared to the proposed project because this alternative would have no impacts. Mitigation would not be required which would be a lesser level of impact compared to the proposed project.

Geology and Soils

The No Project Alternative would not involve construction or ground disturbance that would otherwise expose and loosen soils and increase the potential for erosion. The No Project Alternative would not include the construction of new structures in areas subject to earthquakes or seismic ground shaking. Additionally, the potentially significant but mitigable impacts of the proposed project associated with locating structures in an area subject to soil liquefaction would be avoided under implementation of the No Project Alternative, without any mitigation requirements. Thus, compared to the proposed project, impacts would be substantially reduced because the No Project Alternative would have no impacts on geology or soils.

Hazards/Hazardous Materials

The proposed project would not be implemented under the No Project Alternative, and the project site would remain in its current vacant state. The transport, storage, and use of hazardous materials associated with retail and commercial uses, such as paints and solvents, would be avoided under this alternative. Additionally, the temporary use and storage of hazardous petroleum substances

required for project construction equipment, such as motor oil and diesel fuel, would be avoided under this alternative. The No Project Alternative would have no impact related to hazards and hazardous materials, which would be a lesser level impact compared to the proposed project.

Hydrology and Water Quality

The No Project Alternative would not involve project construction activities that would loosen and expose soils and otherwise increase the potential for soil erosion and sedimentation. The No Project Alternative would not create new or additional impervious surfaces on the project site, because the proposed project would not be constructed. This would reduce the amount of stormwater runoff potentially generated from the project site. Stormwater runoff, as well as infiltration of precipitation on the project site, would continue at existing levels because the existing site conditions would not be modified under this alternative. Thus, because the No Project Alternative would not increase impervious surfaces and associated urban stormwater runoff, and would not increase the potential for sedimentation for ground disturbing activities, it would have no impacts on hydrology and water quality. The potentially significant but mitigable impacts of the proposed project would be avoided.

Land Use and Planning

The proposed project would not be implemented under the No Project Alternative, and the project site would remain in its current vacant state. No changes in current land uses or planned land uses would occur under implementation of this alternative.

CVMP Policy CV-3.11 states that the County shall discourage the removal of healthy native oak trees in the CVMP area, and that a permit shall be required for the removal of any trees. This alternative would not remove any trees and therefore would not require tree removal permits, as with the proposed project. Additionally, the proposed project would have several impacts related to increased vehicles trips that could conflict with policies related to transportation and traffic circulation. This alternative would not generate any new traffic trips, and related impacts that are potentially inconsistent with policies and plans would be avoided. This would be reduced impact compared to the proposed project, as described in Section 4.9.10, *Land Use and Planning*.

Mineral Resources

As described in Section 4.9.11, *Mineral Resources*, the project site is not used for mineral extraction. The project site is not mapped as containing important mineral resources. As such, neither this alternative nor the proposed project would have impacts on mineral resources.

Noise

The No Project Alternative would not require the use of heavy construction equipment on the project site. Additionally, because the proposed project would not be constructed and the site would remain in its current vacant condition, operational noise generated by the project, which would primarily be traffic generated from retail uses, would be avoided under this alternative. The No Project Alternative would not impact existing ambient noise levels at sensitive receptor sites. Impacts would be reduced compared to the proposed project because this alternative would have no impacts on noise. Mitigation would not be required.

Population and Housing

The proposed project would not be implemented under the No Project Alternative, and the project site would remain in its current vacant state. Existing uses on the site, including the parking lot for an adjacent lodging/inn use, two wells, utility connections, and an existing above-ground propane tank and shed building located in the northern portion of the site would remain and continued to be used at their current intensity or level. However, these uses do not have the potential to generate population growth or require new housing or displacement of existing housing or people. Thus, the No Project Alternative would have no impacts to population and housing. As described in Section 4.9.13, *Population and Housing*, the proposed would also have no impacts to population and housing. Accordingly, impacts would be the same regardless of the potential implementation of this alternative or the proposed project.

Public Services

As described in Section 4.9.14, *Public Services*, the proposed project could increase the number of emergency calls to the area, but at levels not expected to significantly impact fire or ambulance services. The proposed project would not be implemented under the No Project Alternative, and the project site would remain in its current vacant state. This alternative would not increase emergency calls to the area and which would be a lesser level of impact compared to the proposed project.

Recreation

The project site would remain in its current vacant state under this alternative. This alternative would have no impact on recreation, similar to the proposed project.

Transportation and Circulation

As described in Section 4.8, *Transportation and Circulation*, operation of the proposed project would generate an estimated 3,883 daily vehicle trips. The proposed project would not be constructed or operated under this alternative, and therefore none of these traffic trips would be generated. The potentially significant and unavoidable impacts to that would result from this additional traffic under the proposed project would not occur under the No Project Alternative. This alternative would have no impacts on transportation and circulation.

Utilities and Service Systems

As described in Section 4.9.17, *Utilities and Service Systems*, the proposed project would result in less than significant impacts related to increased solid waste disposal at Monterey Peninsula Landfill. The proposed project would not be implemented under the No Project Alternative, and the project site would remain in its current vacant state. New sources of solid waste would not be created under this alternative, and the amount of waste disposal at the Monterey Peninsula Landfill would not increase. Thus, the impacts of the proposed project related to solid waste and landfill capacity would be avoided under this alternative.

Increased demand for water supply and wastewater treatment that would from development and operation of new commercial and retail uses on the project site would be avoided under this alternative, because the site would remain its current vacant state. Compared to the proposed project, impacts would be reduced because the No Project Alternative would have no impact on utilities and service systems.

6.3 Alternative 2: Reduced Project Alternative

6.3.1 Description

This alternative would reduce the total square footage of retail development on the project site compared to the proposed project. Under the Reduced Project Alternative, a total of approximately 31,500 square feet of retail development would be constructed, which would be 10,810 square feet less, or an approximately 26 percent reduction of retail space than the proposed project. It is standard practice for retail shopping centers to include at least one anchor store because anchor stores are used to drive the business of the smaller retailers in the shopping center. Additionally, development of a new retail center anchored by a specialty grocery store is one of the project objectives. Thus, it is assumed that under this alternative the larger market building would be constructed as an anchor, but its total size would be reduced to 21,000 square feet[3]. The proposed 8,335 square foot building identified as "Store A" would also be constructed, but would be reduced to 5,000 square feet. The building identified as "Store B" would not be constructed under this alternative. The location of the market building and the "Store A" building on the project site would shift south approximately 50 feet, partially into the area where "Store B" would be constructed under the proposed project. The "Store C" building would not be modified under this alternative compared to the proposed project. A comparison of the square footage of each building under the Reduced Project Alternative and the proposed project is provided in Table 52.

Table 52 Reduced Project Alternative – Retail Space Comparison

Building	Reduced Project Alternative Size (sf)	Proposed Project Size (sf)
Market (grocery)	21,000	23,000
Store A	5,000	8,335
Store B (southeast)	0	5,475
Store C	5,000	5,000
Farm Sheds (2)	500 (250 sf each)	500 (250 sf each)
Gross Leasable Area	**31,500**	**42,310**

Under this alternative, all of the proposed utility connections, including their location, capacity, and size, would be the same as the proposed project. Primary access to the project site would be via a reconfigured traffic-signal controlled intersection at Rio Road and Crossroads Boulevard, which would be the same as the proposed project. This alternative would also include the same three secondary access points to the project site as the proposed project.

It is assumed that all buildings constructed under this alternative would house the same types of retail uses that would be housed under the proposed project. According to the Monterey County Municipal Code (Section 21.58.040), general retail uses require one parking space be provided for every 250 square feet of retail development. As shown in Table 52, approximately 31,500 square feet of retail development would be constructed, which would require approximately 126 parking spaces pursuant to the Monterey County Municipal Code. This would be 58 fewer parking spaces

[3] It is anticipated that the market would be a maximum of 23,000 square feet under the proposed project, but could also be larger or smaller, depending on final plans and tenant needs.

than would be constructed under the proposed project, reducing the overall size of the asphalt parking area on the project site by an estimated 9,396 square feet.

The reduction in building number and size and associated parking area would reduce the overall footprint of the project compared to the proposed project. As described above, the market store and the "Store A" building would be shifted toward the south of their location under the proposed project, which would also shift parking south. A larger area in the northern part of the site, where native woodland is located, would remain undisturbed and undeveloped under this alternative.

6.3.2 Impacts

Aesthetics

As described in Section 4.9.1, *Aesthetics*, Highway 1 is an officially designated State Scenic Highway and the tops of trees and woodland habitat on the project site are visible from the highway. This alternative would likely require removal of fewer of these trees and less woodland habitat compared to the proposed project because the project footprint would be smaller, shifted south on the site, away from the woodland habitat in the northern area of the site. However, this alternative would also require removal of some trees and woodland habitat. Because this alternative would require smaller parking areas, it would also require less exterior lighting on the site, which would reduce impacts from light and glare compared to the proposed project. Impacts would be slightly less than the proposed project and would be less than significant without mitigation required.

Agriculture and Forestry

As described in Section 4.9.2, *Agriculture and Forestry*, the project site is not zoned for agricultural use or identified as Farmland. Although woodland is present on the project site, it does not meet legal definitions of forestry resources, as described in Section 4.9.2, *Agriculture and Forestry*. As such, neither this alternative nor the proposed project would have impacts on agriculture and forestry resources.

Air Quality

As described in Section 4.1, *Air Quality*, air emissions associated with the construction and operation of the proposed project would not exceed applicable MBARD thresholds. Implementation of the Reduced Project Alternative would result in less construction activity overall. Thus, construction of the Reduced Project Alternative would require less time to complete and delivery of fewer materials than the proposed project, which would reduce construction emissions. The Reduced Project Alternative would reduce the retail building space on site by approximately 26 percent, and less asphalt paving because fewer parking spaces would be required. Thus, construction of the Reduced Project Alternative would reduce construction emissions commensurately.

As described in the traffic study (Appendix G), trip generation rates published by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition (2012) were used to estimate the trips that will be generated by the proposed project. These rates are based on 91.77 vehicle trips per each 1,000 square feet of shopping center developed. Using this rate, the Reduced Project Alternative would generate 2,891 daily vehicles trips. This would be 992 fewer daily vehicles trips than the proposed project, an approximately 26 percent reduction. Operational emissions, particularly vehicle exhaust emissions, would commensurately reduce under this alternative. Thus, construction and operation emissions would be less than the proposed project and also below applicable MBARD thresholds. Impacts would be less than significant.

Biological Resources

This alternative would require removal of fewer native trees compared to the proposed project because the total overall size of the project footprint would be reduced and would shift south on the project site, leaving more of the woodland habitat in the north part of the site undeveloped. Accordingly, this would also reduce disturbance or removal of habitat for nesting migratory birds. Because fewer trees would be removed and potentially slightly less nesting bird habitat impacted, impacts would be slightly reduced compared to the proposed project. However, as described in Section 4.2, *Biological Resources*, sensitive species could potentially occur throughout the entire project site, and would not be limited to only woodland habitat. As a result, this alternative would also have potential to impact special status species. Impacts would be less than significant with implementation of Mitigation Measures B-1(a) through B-1(c) and B-2. Compared to the proposed project, impacts would be slightly reduced.

Climate Change

Implementation of the Reduced Project Alternative would result in the construction of 10,810 square feet less commercial space than the proposed project, as well as fewer parking spaces. Thus, construction of the Reduced Project Alternative would require less time to complete and delivery of fewer materials than the proposed project, which would slightly reduce construction-related GHG emissions. The Reduced Project Alternative would reduce the retail building space on site by approximately 26 percent, and less asphalt paving because fewer parking spaces would be required. Thus, construction of the Reduced Project Alternative would reduce construction emissions commensurately.

The Reduced Project Alternative would generate 992 fewer daily vehicle trips than the proposed project during operation, which would be an approximately 26 percent reduction in daily trips. The reduction in daily vehicles trips would result in fewer GHG emissions from mobile sources than the proposed project. As shown in Table 17 in Section 4.3, *Climate Change*, the proposed project would generate 4,018.6 MT CO_2e of mobile emissions annually. It is reasonable to assume that a 26 percent in daily trips would reduce mobile emissions commensurately by approximately 26 percent, resulting in approximately 2,973.8 MT CO_2e annually. Additionally, GHG emissions from energy sources would be slightly less compared to the proposed project because the total interior building space on site would be reduced by approximately 26 percent and would be smaller and require less lighting and less energy to heat or cool. Because the Reduced Project Alternative would have slightly fewer GHG emissions compared to the proposed project, it would have a slightly less incremental impact on global climate change. However, similar to the proposed project, GHG emissions would exceed SLOAPCD's adopted threshold of 1,150 MT CO_2e per year and efficiency threshold of 4.9 MT CO_2e per year. Thus, similar to the proposed project, Mitigation Measure CC-1 would be required for this alternative to reduced GHG emissions. With implementation of mitigation, impacts would be less than significant.

Cultural and Paleontological Resources

The Reduced Project Alternative would include grading and excavation for construction of development on the project site, similar to the proposed project. Thus, this alternative would have potential to uncover and potentially impact previously unidentified or unknown paleontological, archaeological, and tribal cultural resources. The potential for encountering these types of resources could be reduced because the project footprint would be smaller and require less ground disturbance than the proposed project. If resources are uncovered and not properly protected,

impacts would be potentially significant but mitigable, similar to the proposed project. All of the cultural Mitigation Measures required for the proposed project would be required for the Reduced Project Alternative. With mitigation, impacts would be less than significant.

Geology and Soils

Construction of the Reduced Project Alternative would disturb more than one acre and would require implementation of a SWPPP and associated BMPs to reduce the potential for erosion and sedimentation during construction. Additionally, the overall project footprint would be reduced compared to the proposed project, resulting in less construction disturbance. With implementation of the required SWPPP and BMPs, and less ground disturbance required for construction, the potential for erosion and soil loss during construction activities would be reduced compared to the proposed project.

As described above, the Reduced Project Alternative would reduce the amount of impervious parking lot surfaces constructed on the project site by approximately 9,396 square feet compared to the proposed project. Thus, more pervious areas would be retained on the project site. The additional pervious area would allow for more infiltration of precipitation, which would reduce the volume of stormwater runoff from the site during operations compared to the proposed project. As a result, the potential for erosion and soil loss from stormwater runoff during operations would be slightly less than the proposed project. Impacts would be less than significant.

The Reduced Project Alternative would include construction of new structures in areas subject to seismic ground shaking and soil liquefaction. This alternative would include construction of one less building and reduce the size of two other buildings compared to the proposed project. Because two buildings would be smaller, there maximum allowable occupancy would also be reduced commensurately, reducing the number of people that could be exposed to risk of loss or injury from these geological hazards. However, the risk of these hazards would not be avoided completely, and the potentially significant but mitigable impacts of the proposed project associated with locating structures in an area subject to soil liquefaction would also occur under this alternative.

Overall, the Reduced Project Alternative would have a slightly reduced impact on geology and soils than the proposed project because slightly less soil would be disturbed during construction and fewer impervious surfaces would be created, thus reducing the potential for erosion and soil loss. Additionally, less structural space and people would be exposed to liquefaction hazards compared to the proposed project. However, similar to the proposed project, impacts of this alternative would be potentially significant but mitigable. All of the geology and soils Mitigation Measures required for the proposed project would be required for the Reduced Project Alternative.

Hazards/Hazardous Materials

This alternative would require the routine transport, storage, and use of hazardous materials associated with retail and commercial uses, such as paints and solvents, similar to the proposed project. Impacts would be less than significant with mandatory compliance with U.S. EPA and U.S. DOT laws and regulations that require tracking and managing the safe interstate transportation of hazardous materials and waste. Similar to the proposed project, this alternative would have no other impacts related to hazards or hazardous materials.

Hydrology and Water Quality

Construction of the Reduced Project Alternative would require less surface disturbance because less building space and fewer parking spaces would be constructed compared to the proposed project. However, construction of this alternative would disturb soils and increase the potential for soil erosion and sedimentation compared to existing conditions. Construction activities would disturb more than one acre and would require implementation of a SWPPP and associated BMPs to reduce the potential for erosion and sedimentation during construction, similar to the proposed project. The SWPPP must also contain measures to clean or prevent leaks or spills of construction equipment fluids, such as motor oil or diesel. With implementation of the required SWPPP and BMPs, and less ground disturbance, the potential for adverse water quality impacts from erosion or contaminants from equipment would be slightly less under the Reduced Project Alternative compared to the proposed project.

As described above, compared to the proposed project, this alternative would require 9,396 square feet less of impervious surfaces to be constructed on the project site because fewer parking spaces would be required. Although this would be less than the proposed project, the additional impervious surface that would be added to the site would have the potential to alter drainage patterns and the volume of stormwater runoff generated on the project site. The potential for contamination of runoff with urban contaminants, such as oil and grease from the parking lot surface would also occur under this alternative.

Similar to the proposed project, the Reduced Project Alternative would place commercial structures within 100-year flood hazard area. Because the structures would be smaller under this alternative, fewer people would be present onsite and exposed to the risk of flood.

This alternative would result in fewer commercial and retail uses on the project site compared to the proposed project. As such, this alternative would generate less demand for water. As shown in Table 23 in Section 4.6, *Hydrology and Water Quality*, estimated water demand for the proposed project would be up to 7.18 AFY. Using the same water use factors and assumptions shown in Table 23, the estimated water demand of the Reduced Project Alternative would be 5.35 AFY, a reduction of approximately 25 percent. Similar to the proposed project, prior to issuance of a building permit by the County, the applicant would be required to obtain a Water Permit from MPWMD per Rule 23. Impacts would be reduced when compared to the proposed project and would remain less than significant.

Impacts would be similar to the proposed project and potentially significant but mitigable. All of the hydrology and water quality Mitigation Measures required for the proposed project would be required for the Reduced Project Alternative.

Land Use and Planning

Although less commercial space and parking area would be constructed under this alternative, it would require removal of some native oak trees on the project site. Similar to the proposed project, a tree removal permit would be require to ensure consistency with CVMP Policy CV-3.11, which discourages the removal of native oak trees and requires a permit. This alternative would generate approximately 26 percent fewer daily vehicle trips compared to the proposed project, but would not avoid significant and unavoidable impacts to transportation and circulation that would result from new traffic trips generated under the proposed project. As described in Section 4.9.10, *Land Use*, these significant and unavoidable impacts may potentially conflict with one or more policies or plans. Also similar to the proposed project, this alternative would not divide a community or conflict

with habitat conservation plans or natural community conservation plans. Overall, impacts would be approximately the same as the proposed project. Mitigation is not required.

Mineral Resources

As described in Section 4.9.11, *Mineral Resources*, the project site is not used for mineral extraction. The project site is not mapped as containing important mineral resources. As such, neither this alternative nor the proposed project would have impacts on mineral resources.

Noise

Construction of the Reduced Project Alternative would require similar equipment to the equipment required for the proposed project. Thus, noise levels generated from construction equipment would be the same under the Reduced Project Alternative. However, because less commercial space would be constructed compared to the proposed project, the duration of construction noise impacts would be shortened. The Reduced Project Alternative would generate 992 fewer daily vehicle trips than the proposed project during operation. The reduction in daily vehicles trips would result in less traffic-related noise during operation. Impacts would be less than the proposed project and less than significant. However, this alternative would increase cumulative traffic noise on Rio Road to the west of Highway 1, and cumulative impacts would be significant, comparable to the proposed project.

Population and Housing

This alternative would develop the project site with commercial and retail uses, and similar to the proposed project, would not involve the construction of new housing or displacement of existing housing or people. One less retail building would be constructed under this alternative compared to the proposed project, and as a result the employment opportunities may be reduced. However, as described in Section 4.9.13, *Population and Housing*, employment at proposed uses on the project site would be filled primarily from the existing regional work force, and not result in substantial population growth. Thus, similar to the proposed project, this alternative would have no impacts to population and housing.

Public Services

As described in Section 4.9.14, *Public Services*, the proposed project could increase the number of emergency calls to the area, but at levels not expected to significantly impact fire or ambulance services. Because one less building would be constructed on the project site and two buildings would be smaller under this alternative, maximum allowable occupancy on the site would be reduced commensurately. Because fewer people would be on site during operations, the potential for increases in the number of emergency calls would decrease slightly compared to the proposed project. Furthermore, the demand for public services under this alternative would not require new or expanded facilities; therefore, it would not result in substantial adverse physical impacts associated with the provision of or need for new or physically altered government facilities. Impacts would be less than significant.

Recreation

This alternative would develop the project site with the same types of retail and commercial uses as the proposed project. As described in Section 4.9.15, *Recreation*, these uses would not generate new population growth or consequential increased demand on recreational facilities. The

construction of recreational facilities or uses is not included under this alternative. Thus, similar to the proposed project, this alternative would have no impacts to recreation.

Transportation and Circulation

Based on the trip generation rate used for the proposed project, the Reduced Project Alternative 2 would generate 2,891 daily vehicle trips. This would be 992 fewer daily vehicles trips than the proposed project, a 26 percent reduction. Approximately 23 fewer AM peak hour trips and 86 fewer PM peak hour trips would generated under this alternative. Because fewer trips would be added to study area intersections and roadway segments, impacts would be reduced when compared to the proposed project. However, similar to the proposed project, trips generated under this alternative would result in potentially significant and unavoidable impacts to traffic and circulation. All of the Mitigation Measures required for to mitigate traffic impacts of the proposed project, as described in Section 4.8, *Transportation and Circulation*, would also be required under this alternative.

Utilities and Service Systems

As described above, compared to the proposed project, this alternative would require 9,396 square feet less of impervious surfaces to be constructed on the project site because fewer parking spaces would be required. Thus, there would be more surface on the project site for precipitation to infiltrate and result in reduced volumes of stormwater runoff. Thus, while this alternative would increase the volume of stormwater conveyed to existing storm drain systems, it would be less than the proposed project. As described above in the hydrology and water quality discussion, this alternative would also create less demand for water supply compared to the proposed project.

Less solid waste would be generated during both construction and operation compared to the proposed project, because commercial and retail space would be reduced. Thus, compared to the proposed project, this alternative would result in less solid waste disposal at the Monterey Peninsula Landfill.

Overall, this alternative would generate less demand on existing utilities and service systems compared to the proposed project, and impacts would be slightly less. Impacts would be less than significant and not require mitigation.

6.4 Environmentally Superior Alternative

CEQA requires the identification of the environmentally superior alternative among the options studied. The environmentally superior alternative must be an alternative to the proposed project that reduces some of the environmental impacts of the proposed project, regardless of the financial costs associated with this alternative. Identification of the environmentally superior alternative is an informational procedure and the alternative identified as the environmentally superior alternative may not be that which best meets the goals or needs of the proposed project.

Based on the analysis above, the No Project Alternative would be the environmentally superior alternative as it would either avoid or lessen the severity of all significant impacts of the proposed project. When the “no project” alternative is determined to be environmentally superior, CEQA *Guidelines* also requires identification of the environmentally superior alternative among the development options. Thus, the other alternative evaluated in this EIR, the Reduced Project Alternative, is determined to be the environmentally superior alternative. Table 53 compares the impact classification across each alternative considered.

Table 53 Impact Comparison of Alternatives

Issue	Proposed Project	Alternative 1: No Project	Alternative 2: Reduced Project
Aesthetics	=	+	+
Agriculture and Forestry	=	=	=
Air Quality	=	+	+
Biological Resources	=	+	+
Climate Change	=	+	+
Cultural and Paleontological Resources	=	+	=
Geology and Soils	=	+	+
Hazards/Hazardous Materials	=	+	=
Hydrology and Water Quality	=	+	=
Land Use Planning	=	+	=
Mineral Resources	=	=	=
Noise	=	+	+
Population and Housing	=	=	=
Public Services	=	+	=
Recreation	=	=	=
Transportation and Circulation	=	+	+
Utilities and Service Systems	=	+	+
Overall	=	+	+

+ Superior to the proposed project (reduced level of impact)

- Inferior to the proposed project (increased level of impact)

= Similar or same level of impact to the proposed project

The Reduced Project Alternative is determined to be the environmentally superior alternative because it would have reduced impacts to eight issue areas compared to the proposed project, as shown in Table 53. Additionally, the Reduced Project Alternative would not have any impacts that are more severe or greater than the proposed project. Impacts would be reduced primarily due to the reduction in buildout and development of the project site compared to the proposed project. However, although this alternative would reduce daily vehicles trips by approximately 26 percent compared to the proposed project, the significant and unavoidable impacts to greenhouse gases, noise, and transportation and circulation related to increased vehicle trips would not be avoided.

This Reduced Project Alternative would also meet all of the project objectives, as listed in Section 2.0, Project Description. For example, this alternative would develop a new retail center anchored by a specialty grocery store with complementary commercial uses, would locate a specialty market closer to the Carmel area and Big Sur Coast, and would be consistent with the County's General Plan. One objective of the project is to create new employment opportunities and expand the County's tax revenue. The Reduced Project Alternative would accomplish this objective as well, but would create fewer employment opportunities and tax revenue compared to the proposed project.

7 References

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7.2 List of Preparers

This EIR was prepared by the County of Monterey, with the assistance of Rincon Consultants, Inc. with support from Keith Higgins Traffic Engineer and Pacific Crest Engineering.

COUNTY OF MONTEREY

Brandon Swanson, Planning Services Manager, Monterey County RMA-Planning Division
Craig Spencer, Senior Planner, Monterey County RMA-Planning Division

RINCON CONSULTANTS, INC.

Stephen Svete, AICP, LEED AP ND, Principal
Abe Leider, Principal, QA/QC reviewer
Megan Jones, MPP, Senior Program Manager, QA/QC
Christy Sabdo, AICP, Project Manager
George Dix, Senior Environmental Planner
Hannah Haas, M.A., RPA, Archaeologist and Project Manager
Samantha Kehr, Associate Biologist
Smadar Levy, Associate Environmental Planner
Matthew Long, Senior Environmental Scientist
Lance Park, MAIEP, Associate Planner
Kari, Zajac, Associate Planner

KEITH HIGGINS TRAFFIC ENGINEER (TRAFFIC STUDY)

Keith Higgins, Traffic Engineer

PACIFIC CREST ENGINEERING (PRELIMINARY GEOTECHNICAL INVESTIGATION)

Elizabeth M. Mitchell, G.E., President/Principal Geotechnical Engineer
Soma B. Goresky, G.E. Associate Geotechnical Engineer