# CHAPTER 5
# CUMULATIVE EFFECTS

## 5.1 INTRODUCTION

In many cases, the effect of a single project may not be significant, but the cumulative effect may be significant when combined with other projects. A cumulative effect refers to two or more individual effects that, when considered together, are considerable or that compound or increase other environmental effects. Cumulative effects of a project are generally addressed when a project's incremental effect is cumulatively considerable, where "cumulatively considerable" means that the effects of an individual project are significant when added to the effects of past, present, and probable future projects, causing related effects. Cumulative effects can result from individually minor but collectively significant projects taking place over a period of time. A project's contribution is not considered cumulatively considerable if the project is required to implement or fund its fair share of measures designed to alleviate the cumulative effect.

## 5.2 CUMULATIVE PROJECTS

A cumulative effects assessment is based on either (a) a list of past, present, and probable future projects producing related or cumulative effects, including, if necessary, those effects outside the control of the agency, or (b) a summary of projections contained in an adopted plan or related planning document, or in a prior environmental document that has been adopted or certified, that described or evaluated regional or area-wide conditions contributing to the cumulative effect. This discussion employs the first approach, which consists of an analysis of related projects in the vicinity that are currently proposed or approved.

The study area for the cumulative effect analysis is based on existing, recently approved, or pending projects within the following geographic limits from the Specific Plan site:

- Northern boundary: Buena Vista Lagoon
- Eastern boundary: El Camino Real and College Boulevard
- Southern boundary: A Street
- Western boundary: Pacific Ocean

The cumulative projects list in **Table 5-1** presents a description of all related projects and is followed by a discussion of the effects that the Specific Plan may have on each environmental category of concern, such as traffic, biology, noise, etc. This discussion is guided by the standards of practicality and reasonableness.

## Table 5-1
## Cumulative Project List

| Map ID No. | Project Title | Project Location | Project Description | Status |
|---|---|---|---|---|
| *City of Carlsbad* | | | | |
| 1 | Westfield Carlsbad Specific Plan/Site Development Plan | El Camino Real and Plaza Drive | The project consists of 148,159 square feet of leasable space and a 35,417-square-foot commercial expansion to the existing Westfield Mall. | Approved; Phase I under construction |
| 2 | DKN Hotel | 3136 Carlsbad Boulevard | The project consists of the demolition of an existing hotel, restaurant, and single-family residence for construction of a three-story, 104-room hotel. | Under review |
| 3 | Encinitas Creek Apartment Homes | East side of College Boulevard between Cannon Road and El Camino Real | The residential project consists of a five-lot subdivision for five separate apartment buildings. | Under review |
| 4 | Quarry Creek | South of Haymar Drive between College Boulevard and El Camino Real | The project consists of a 656-residential-unit facility with public use areas and open space on a 156-acre property. | Approved; engineering design phase |
| 5 | Robertson Ranch West Village | North side of El Camino Real between Cannon Road and Tamarack Avenue | A vesting master tentative map is proposed creating 13 lots for commercial, open space, and residential planning areas. | Under review |
| 6 | State Street Townhomes | 2531–2586 State Street | The project proposes 41 market-rate and 6 inclusionary housing units with ground-level office and flex space for live-work units. | Under review |
| 7 | State Mixed Use 30 | 3068 State Street | The project proposes a four-story mixed-use building. | Under review |
| 8 | Hoehn Motors Audi Dealership | 5425 Paseo del Norte | A new car dealership and service center is proposed. | Under review |
| 9 | Envision Carlsbad | Citywide | A comprehensive update to the City of Carlsbad General Plan, Local Coastal Program, and Zoning Ordinance are proposed. | Under review |
| 10 | Agua Hedionda and Calavera Creek | 5073 Ashberry Road | The project consists of channel dredging emergency work. | Under review |
| 11 | Buena Vista Creek Channel Maintenance Project | Along Buena Vista Creek, between the South Vista Way bridge and the Jefferson Street bridge | The project is an ongoing maintenance program, which consists of hand removal of vegetation within the northern half of the channel, to continue to provide flood protection of the Maintenance District properties. | Approved |

## Table 5-1
## Cumulative Project List

| Map ID No. | Project Title | Project Location | Project Description | Status |
|---|---|---|---|---|
| 12 | Carlsbad Seawater Desalination Project | Adjacent to the existing Encina Power Station located immediately south of Agua Hedionda Lagoon, at Carlsbad Boulevard via the Cannon Road interchange at I-5. | The project is the construction of an approximately 50-million-gallon-per-day desalination plan and other appurtenant and ancillary water and support facilities to produce potable water. | Approved and Under Construction |
| 13 | Beachwalk at Madison | Madison Street between Grand Avenue and Arbuckle | The project consists of the construction of six condos in two three-story triplex buildings. | Under review |
| 14 | Beachwalk at Roosevelt | 2683 and 2686 Roosevelt Street | This project consists of the construction of 16 three-story townhome units. | Under review |
| 15 | Carlsbad Boat Club and Resort | 4509 Adams Street | This project consists of the construction of a three-story, 20-unit timeshare facility. | Under review |
| 16 | Inns at Buena Vista Creek | SE Corner of Jefferson Street and SR 78 Interchange | Three Hotels w/central parking structure. | Under review |
| 17 | Magnolia Townhomes | 749 and 763 Magnolia Way | Three-building, 16-unit condo project | Under review |
| 18 | Ocean Breeze | 608 Chinquapin Avenue | Three open air condos and one clubhouse. | Under review |
| 19 | Poinsettia 61 | South side of Cassia Road between Ambrosia Lane and El Camino Real | 140 Airspace condos in clusters on single-family lots. | Under review |
| 21 | Westin Hotel and Timeshare | South side of Cannon Road East of Grand Pacific Drive | Two hotel buildings and one 36-unit timeshare. | Under review |
| *City of Encinitas* | | | | |
| 22 | North Coast Highway 101 Streetscape Project | North Coast Highway 101 from A Street to La Costa Avenue | The project enhances the North Coast Highway 101 corridor by creating a plan for beautification, landscape, pedestrian, circulation, traffic management, and parking improvements for an approximately 2.5-mile stretch of North Coast Highway 101. | Under review |
| 23 | City of Encinitas Housing Element Update | Citywide | The City of Encinitas is in the process of updating its housing element component of the local General Plan to address the changing housing needs of its communities and to establish action plans to meet those goals. | Under review |

**Table 5-1**
**Cumulative Project List**

| Map ID No. | Project Title | Project Location | Project Description | Status |
|---|---|---|---|---|
| *Caltrans* | | | | |
| 24 | I-5 North Coast Corridor Program (Corridor Program) | I-5 from the northern portion of the City of San Diego to northern San Diego County | The project consists of several build alternatives for I-5 to maintain or improve travel times and traffic levels of service within the transportation corridor. | Under review |

## 5.3 CUMULATIVE EFFECT ANALYSIS

This analysis evaluates the potential for the cumulative projects in combination to result in a cumulatively considerable effect and the potential for the Specific Plan to contribute considerably to that cumulative effect on the environment. For issues in which project effects were determined to be less than significant during the preliminary environmental review process, significance thresholds for each respective issue were provided. For each resource area, an introductory statement is made regarding what would amount to a significant cumulative effect in that resource area. A discussion regarding the potential for the identified cumulative projects to result in such a cumulative effect, followed by a discussion of whether the Specific Plan's contribution to any cumulative effect would be cumulatively considerable, is presented herein.

### 5.3.1 Aesthetics

**Scenic Vistas**

A cumulative effect would result if the cumulative projects in combination resulted in a substantial degradation of quality or obstruction of the views afforded within a scenic vista. Several cumulative projects are located in scenic areas or potentially visible from identified scenic viewpoints. The Carlsbad Desalination Plan project is located along Carlsbad Boulevard and the railroad corridor, both of which are included in the City of Carlsbad's Scenic Corridor Guidelines and would likely be visible from some vantage points looking over Agua Hedionda Lagoon. Additionally, the North Coast Highway 101 Streetscape project is located along Highway 101, which is considered a scenic corridor by the City. While these projects would be located in highly scenic areas, they would be surrounded by similar construction and would not result in cumulatively substantial degradation of existing views. The Carlsbad Boat Club and Resort is located on the northern shore of the lagoon, however, the low profile of the proposed buildings (max 35 feet in height), in addition to the 50-foot bluff setback would not result an adverse effect to existing views. Additionally, due to the location of the cumulative projects, it is unlikely that the Specific Plan would be visible along with any given cumulative project from

any scenic viewpoint. Therefore, a potentially significant cumulative effect to scenic vistas would not result.

As discussed in Section 4.1, Aesthetics, the majority of the Specific Plan area (approximately 85%) would remain in agriculture or open space uses, therefore, views of these areas from surrounding vista points would not be substantially altered or adversely affected. Agricultural lands would be improved and useable open space would be provided to the community. Open space and agricultural land would be preserved and protected in perpetuity.

The more intensive land uses are proposed on the Visitor Serving Commercial (VSC) portions of the Specific Plan area; however, the VSC area accounts for less than 15% of the total Specific Plan area. VSC uses would be visible from I-5, an eligible scenic highway in the state's Scenic Highway Program; however this area is currently in active agricultural use and contains no natural scenic resources such as trees or rock outcroppings and would not result in damage to scenic resources within a state scenic highway. In addition, views to the lagoon from vehicles traveling on the I-5, both north and south, would not be obstructed by the land uses proposed in the Specific Plan (see **Figure 4.1-4**, Public Right-of-Way Lagoon View Corridors). Similarly, viewsheds along Cannon Road would not be obstructed. Visual resources and natural landforms would be maintained by conserving prominent topographic features and contouring trails to follow existing topography. Therefore, the Specific Plan would not result in damage to scenic resources within a state scenic highway.

The Specific Plan would be visible from five of the seven vista points identified in the Agua Hedionda Land Use Plan (see **Figure 4.1-2**, Agua Hedionda LUP Vista Points and Scenic Routes). Vista Point 1, which is located within the Specific Plan area, would be incorporated into the Specific Plan as a vista point with public access, thereby providing greater access to this view. This vista point would be on the north side of the proposed VSC uses; therefore, views northward toward the lagoon would be unchanged by the Specific Plan. The Specific Plan would not alter foreground views of the lagoon from Vista Point 2 and the Specific Plan VSC uses would blend in with other prominent man-made features currently in this view, such as the Encina Power Plant and I-5. Vista Points 3, 4, and 5 are located along the northern shore of the inner lagoon with direct views across the lagoon to the Specific Plan area. Vista Point 3 would have the most direct view of the VSC uses. Construction of the VSC uses would introduce new man-made features to distant views from Vista Points 3, 4, and 5. However, infrastructure features such as the Encina Power Plant and overhead transmission lines, which are much more prominent and greater in height, currently occupy the distant views from these vista points. Additionally, because Vista Points 3 and 4 are located along the shoreline of the inner lagoon and because development associated with the Specific Plan would be set back a minimum of 50 feet from the top of bluff and the Habitat Management Plan (HMP) hardline conservation area, buildings closest to the lagoon on the VSC portion of the Specific Plan area would be partially

blocked due to the angle of the view. There would be no buildings higher than 35 feet within the entire VSC area. Therefore, no tall building or obtrusive structures would be allowed on site, which would contribute to the degradation of scenic vistas. Thus, the Specific Plan would not contribute considerably to a cumulative significant effect to scenic vistas.

**Visual Character and Quality**

A cumulative effect would result if the cumulative projects in combination resulted in a substantial degradation of visual character and quality of the area compared to existing conditions. The Specific Plan area is visually separated from most of the cumulative projects listed in **Table 5-1** by its location along Agua Hedionda Lagoon, which places it at a considerable distance from other uses. The cumulative projects that are in close enough proximity to the Specific Plan to result in changes in visual character of the area are the Carlsbad Desalination Plant project, the Westin Hotel and Timeshare project and the Carlsbad Boat Club and Resort.

The Carlsbad Desalination Plant project is located entirely within the Encina Power Station area and is not expected to create adverse significant effects to the visual quality of the area because Environmental Protection Features (EPFS) related to building design and shielding of the plant will reduce any significant visual effects. The Westin Hotel and Timeshare project is located south of Cannon Road, is visually separated from the Specific Plan site, and is not in close proximity to any of the scenic vista points identified in the Agua Hedionda LUP. The Carlsbad Boat Club and Resort is located along the northern shore of the lagoon and is a low profile project that is not anticipated to have any adverse visual effects to the area. While the ultimate architectural design of the other cumulative projects is not known, each project would result in residential, commercial, and institutional land uses similar to the existing urban setting. Additionally, each cumulative project in proximity to the Specific Plan would comply with the City's construction requirements, which would ensure that bulk, scale, height, and setbacks are compatible with the surrounding community.

As discussed in Section 4.1, Aesthetics, the Specific Plan would represent a low to moderate visual change from surrounding areas when compared to existing conditions. The Specific Plan would continue the agricultural and open space uses that currently exist and these uses would be the predominant use of the site. Restoration would occur in undeveloped open space areas, resulting in improved vegetation cover and enhancing the visual character of these areas. The approximately 26.7 acres of VSC uses would convert a low-intensity land use to a higher-intensity land use. The VSC area would employ an architecture that is both complementary to and compatible with the design throughout the region. The architectural style, layout and aesthetic are intended to encourage a character and experience that is both reminiscent and respectful of the recent history of the Carlsbad area, while providing for the identity of the

individual tenants and providing for future flexibility as retail and commercial design concepts evolve. The VCS uses would be designed to ensure a smooth transition to the surrounding community and adjacent natural open space. In an effort to ensure compatibility, Environmental Project Feature**s (EPF) AES-1** through **EPF AES-4** would be implemented. In addition, overarching design objectives for the VSC area would ensure a cohesive, high quality design, and the inclusion of plantable walls at graded slopes along Cannon Road would help to soften the appearance of retaining systems and would help visually integrate the structures into the existing and proposed landscape setting.

Although the Specific Plan would introduce higher intensity land uses to the western portion of the Specific Plan area, the surrounding vicinity is currently developed with higher intensity land uses, including hotels, car dealerships, the I-5, and the Encina Power Plant. The Specific Plan area is also currently dominated by high voltage overhead transmission lines, which traverse the site from west to east. All construction within the VSC portion of the Specific Plan would comply with the design and siting requirements of Coastal Act Section 30251, protecting views to and along the ocean and scenic coastal areas, minimizing the alteration of natural land forms, being visually compatible with the character of surrounding areas, and where feasible, restoring and enhancing visual quality in visually degraded areas. As such, implementation of the Specific Plan would not contribute considerably to a cumulatively significant effect to visual character and quality.

**Light and Glare**

A cumulative effect would result if the cumulative projects in combination resulted in a substantial increase in light or glare that resulted in safety concern or substantially altered daytime or nighttime views. Each of cumulative projects would comply with City, or relevant jurisdiction's code for light pollution control.

As discussed in Section 4.1, Aesthetics, the Specific Plan area would not allow lighting within the HMP conservation area, or within the Passive Open Space (P-OS) areas. Similarly, little to no night lighting would be associated with the agricultural operation. Lighting for the Specific Plan would allow for exterior lighting in the VSC use area to create an attractive night identity and ensure safety and security. However, EPFs to ensure compatibility of lighting with the surrounding area and minimize effects to nighttime views are incorporated into the Specific Plan (see **EPF AES-5** through **EPF AES-8**). Within the open space areas, pedestrian-scale light fixtures would be allowed where necessary for security and for visitor use.

The Specific Plan requires that colors and materials of structures be carefully selected to minimize visual effects. As such, the types of materials to be used in building construction would

not include reflective building materials to be used in building construction to the degree that glare would adversely affect surrounding viewers.

Overall, the Specific Plan requires EPFs (**EPF AES 1** through **EPF AES-8**) that are intended to avoid or substantially reduce all potential environmental effect to the maximum extent feasible. As such, the Specific Plan would not contribute considerably to a significant cumulative effect to lighting and glare. In addition, with incorporation of and in compliance with all applicable light pollution control regulations, the cumulative projects in combination with the Specific Plan would not result in a significant cumulative effect.

## 5.3.2 Agricultural and Forest Resources

**Agricultural Resources**

A cumulative effect would result if the cumulative projects in combination resulted in the substantial conversion of Prime Farmland, Unique Farmland or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency, to non-agricultural use. None of the cumulative projects listed in **Table 5-1** converts an agricultural use to a non-agricultural use. Most cumulative projects would involve revitalization of existing uses and infill or renovation of underutilized uses. Therefore, no potentially significant cumulative effect to conversion of farmland would result.

As discussed in Section 4.2, Agriculture and Forest Resources, 63.7 acres of the western portion of the Specific Plan area is designated Prime Farmland. The Specific Plan would involve converting approximately 26.7 acres of FMMP-designated farmland (22.1 acres of Prime Farmland and 3.4 acres of Unique Farmland) from active agriculture to VSC uses. The Specific Plan would incorporate **EPF AG-1**, which requires the Specific Plan applicant to preserve in perpetuity agricultural uses in the Exclusive Agricultural Open Space (EAG-OS) and Agricultural Support Open Space (AGS-OS) areas through the recordation of open space easements and deed restrictions. The preservation of 45.6 acres of EAG-OS in addition to 15.9 acres of AGS-OS will improve and expand existing operations and will allow for new recreation and education opportunities for the public. Farm stands, farmer markets, u-pick (strawberry) facilities, "farm-to-table" dining, and areas to serve both recreation and education would be allowed in the AGS-OS portion of the Specific Plan. This will allow visitors to experience sustainable farming practices and to procure produce grown on site, thereby contributing to the long-term viability of agriculture in the area. Furthermore, the Specific Plan applicant would subsidize the cost of restoring the currently fallow agricultural land (approximately 37.5 acres) on site in order to ensure that a profitable, more economically viable agricultural operation exists in perpetuity within the Specific Plan boundary.

The Specific Plan is consistent with the policies in the Agua Hedionda Land Use Plan (LUP)(1982) policies and its approach to agricultural preservation. It, however, reduces the amount of VSC uses permitted within the Travel Services (T-S) designated area and increases the amount of land designated as Open Space. The Specific Plan proposes Visitor-Serving Commercial uses consistent with the T-S designation over approximately 26.7 acres of the northern portion of Specific Plan area directly adjacent to I-5. Habitat restoration and passive recreational uses will occur within the areas designated Habitat Management Plan Open Space (HMP-OS) lands (75.8 acres) and P-OS lands (39.4 acres). The clustering of commercial facilities adjacent to I-5, as well as the grouping of open space and agricultural areas, will establish a permanent and stable boundary for urban facilities on the site and will provide sufficient buffers to minimize conflicts between urban and agricultural uses. In addition, none of the land comprising the Specific Plan area has entered into Williamson Act contracts; therefore the Specific Plan would not affect such contracts.

Overall, with the incorporation of **EPF AG-1** and the preservation of agricultural land within the Specific Plan boundary, the Specific Plan would not contribute considerably to a significant cumulative effect to agricultural resources.

**Forest Resources**

The Specific Plan area does not contain any forest land, land suitable for timber production, or any parcels of real property zoned for timberland production; therefore, the Specific Plan would not affect such lands. As such, the Specific Plan would not contribute considerably to a significant cumulative effect to forest resources.

### 5.3.3 Air Quality

A cumulative effect would result if the cumulative projects in combination resulted in effects to the San Diego Air Basin. Short-term cumulative air quality effects could result if the Specific Plan construction proceeds within areas and timeframes of other cumulative project construction. In addition, because of their long-term nature, any significant emissions increase from operations for pollutants for which the San Diego Air Basin is not in attainment with state and federal standards are considered cumulatively considerable.

**Applicable Air Quality Plans**

As discussed in Section 4.3, Air Quality, the Specific Plan exceeds the 2009 County Regional Air Quality Strategy (RAQS) development projection by 121,400 square feet. As such, it is assumed that the Specific Plan would result in emissions greater than those contemplated in the 2009 RAQS and therefore would potentially conflict with the ability of the RAQS to demonstrate attainment and maintenance of the National Ambient Air Quality Standards and the California

Ambient Air Quality Standards. The Specific Plan is consistent with the objectives of the 2009 RAQS for smart growth and is expected to help shorten trip lengths made by retail and commercial customers in north San Diego who would otherwise need to travel to downtown San Diego or Orange County for similar retail and commercial uses. The Specific Plan is also expected to encourage hybrid vehicle usage through preferential parking for electric vehicles and electric vehicle charging stations, and encourage the use of public transportation through connectivity to existing bus and train services.

The Specific Plan is consistent with the City's Draft General Plan Update, as well as SANDAG's 2050 Regional Transportation Plan and Sustainable Communities Strategy. **EPF AQ-1** requires the Specific Plan applicant to request that the San Diego Air Pollution Control District revise the RAQS to include the development projections of the Specific Plan in the SDAPCD's next triennial update to the RAQS. Thus, it is anticipated that the Specific Plan will be consistent with future updates to the 2009 RAQS since the RAQS would be updated based on current California Air Resources Board and SANDAG information, which would include the City's latest land use planning information. Although it is anticipated that the Specific Plan would be consistent with future updates to the 2009 RAQS, it is not consistent with the 2009 RAQS; and as such, cumulative effects to applicable air quality plans are considered cumulatively considerable. This finding conforms to the City of Carlsbad Draft General Plan Update EIR's findings relative to air quality impacts.

**Air Quality Standards**

As discussed in Section 4.3, Air Quality, a significant cumulative effect would occur if the Specific Plan would result in a cumulatively considerable net increase of any criteria pollutant for which the Specific Plan region is in non-attainment (or precursors to any such criteria pollutant).

Air Quality evaluations determined that the Specific Plan would result in a cumulatively considerable net increase of VOC emissions due to construction of cumulative projects during the same timeframe as construction of the Specific Plan. In addition, the operational emissions of the Specific Plan are significant for VOCs, $NO_x$, $PM_{10}$ and $PM_{2.5.}$ VOCs and NOx are precursors to ozone, and the San Diego Air Basin is designated as a federal nonattainment area for $O_3$ and a state nonattainment area for $O_3$, $PM_{10}$, and $PM_{2.5.}$ Thus, the Specific Plan, in combination with the other cumulative projects, would result in increased emissions in the area. Although the operation of the Specific Plan would result in significant CO emissions, CO is not evaluated as part of the analysis because the SDAB is in attainment for CO.

The primary source of the operational emissions is the traffic mobile sources. The emissions from traffic mobile sources are expected to gradually decline in the future as cars become more fuel efficient due to existing regulations (i.e., Pavley Standard and the Advanced Clean Cars

program). The Specific Plan has also incorporated a transportation demand management program to help reduce trip generation. The mixed-use design of the Specific Plan will also help reduce total vehicle miles traveled by shortening potential trips. The Specific Plan would implement **EPF AQ-1** through **EPF AQ-12** to further reduce emissions. However, emissions associated with the Specific Plan would exceed San Diego Air Pollution Control District criteria pollutant thresholds for VOC emissions during construction, and for VOCs, $NO_x$, $PM_{10}$ and $PM_{2.5}$ during operation; therefore, effects would be cumulatively considerable. This finding conforms to the City of Carlsbad Draft General Plan Update EIR's finding relative to air quality impacts.

## 5.3.4 Biological Resources

Cumulative effects consider the potential regional effects of a project and how a project may affect an ecosystem or one of its members beyond the project limits and on a regional scale. Most of the cumulative projects in **Table 5-1** would not have effects to biological resources because they are in existing developed areas and on sites that would likely have minimal existing biological resources. The Carlsbad Desalination Plant project may potentially affect biological resources due to its proximity to coastal resources and the Pacific Ocean. This project, however, is consistent with the Carlsbad HMP and the Oceanside Subarea Plan and provides appropriate mitigation to ensure that cumulative effects would not be considered significant.

### Special-Status Plants

As outlined in Section 4.4, Biological Resources, there are three special-status plant species that have been observed within the Specific Plan area. The Specific Plan does not propose development or disturbance in the high-quality coastal scrub and marsh habitats that exists in the extreme northern and eastern regions of the Specific Plan area. Therefore, no direct effects to the special-status species that exist there or their habitat are likely to occur with the implementation of the Specific Plan. Additionally, restoration and environmental protection would occur under the Specific Plan such that there would be an increase in habitats that are potentially suitable for these special-status plant species. Any potential indirect effects to special-status plant species would only be short-term and temporary due to construction activities. The special-status plant species are located within intact habitat in the eastern region of the Specific Plan area where no disturbance activities are proposed. As such, direct and indirect effects to special-status plants would not be cumulatively considerable.

### Special-Status Wildlife

A total of five special-status wildlife species have been recorded in the Specific Plan area. It is unlikely the Specific Plan would result in the direct loss of special-status bird species because of the highly mobile nature of these species. The additional special-status wildlife species have moderate to high potential to occur within the Specific Plan area and could be directly effected

by loss of suitable habitat for foraging or nesting. However, incorporation of **EPF BIO-1** would reduce potential effects to less than significant.

The coastal sage scrub that would be lost with the Specific Plan is of a disturbed nature that would make it not suitable habitat for nesting California gnatcatchers; therefore no direct effects to gnatcatchers are anticipated.

The Specific Plan area supports native habitats in and adjacent to the area, which could provide potential nesting and foraging habitat for a variety of song birds and raptors. No active or inactive nests were identified during surveys in 2014 and 2015; however, with incorporation of **EPF BIO-1** avoidance measures would be implemented to avoid effects to nesting bird species covered under the Migratory Bird Treaty Act. In addition, with incorporation of **EPF BIO-1** through **EPF BIO-3** direct effects to nesting bird species would be less than significant. Another Environmental Protection Feature, **EPF BIO-2**, would reduce potential effects to the habitat of the burrowing owl.

Short-term, construction related, or temporary indirect effects to special-status wildlife species would also be reduced by incorporation of **EPF BIO-3** through **EPF BIO-6**. In addition, incorporation of **EPF BIO-7** would reduce indirect effects associated with night lighting and security lighting in parking lots or circulation areas. As such, direct and indirect effects to special-status wildlife would not be cumulatively considerable.

**Riparian Habitat or Other Sensitive Natural Community**

Most habitat disturbance under the Specific Plan would be focused on the upper terrace of the site where most of the habitats were subject to agricultural operation in the past. As such, much of the area to be developed under the Specific Plan is either disturbed habitat or active agriculture, which provides minimal habitat benefits to native plant and wildlife species. It is expected that effects to native habitats would be extremely limited; however, any potential effects to vegetation communities would be mitigated with **EPF BIO-4, EPF BIO-9** and **EPF BIO-10**. There would also be no effects to riparian or wetland habitats and a conservation easement would be recorded over open space areas to preserve their function as habitat as detailed in **EPF BIO-5** through **EPF BIO-8**.

The Specific Plan's grading would be subject to the implementation of best management practices (BMPs) and typical restrictions and requirements that address dust control, erosion, and runoff, including the federal Clean Water Act and National Pollutant Discharge Elimination System. These BMPs and **EPF BIO-8** through **EPF BIO-12** would mitigate any indirect edge effects to vegetation communities.

In addition, all native habitats on site will be protected by requiring at least a 20-foot buffer around all native habitats (**EPF BIO-13**). This will further limit the indirect effects that will result from implementation of the Specific Plan. Thus, the Specific Plan would not contribute considerably to a cumulative significant effect to riparian habitat or other sensitive natural communities.

**Protected Wetlands**

There would be no direct or indirect effects to jurisdictional aquatic resources, including federally protected wetlands. All wetlands and waters within the Specific Plan area will be avoided, and there will be a 100-foot buffer implemented around all riparian, wetland, and streambed habitats to protect these resources (**EPF BIO-14**). Therefore, the Specific Plan will not considerably contribute to a significant cumulative effect to federally protected wetlands or other sensitive natural communities.

**Wildlife Corridors and Movement**

A cumulative effect to linkages or wildlife movement corridors would occur if the reasonably foreseeable cumulative projects resulted in constraining or blocking known habitat linkages or result in a cumulative barrier to wildlife movement. The coastal cities of northern San Diego County are nearly built out and highly urbanized. Wildlife movement is limited to significant open areas such as upstream river valleys and coastal lagoons. Most of the cumulative projects identified in **Table 5-1** are within or adjacent to existing developed areas and avoid construction in the areas potentially used for wildlife movement, specifically Agua Hedionda Lagoon.

The eastern part of the Specific Plan area is located within the Carlsbad HMP existing hardline conservation area and is identified as a linkage that serves as an important wildlife corridor. Due to the lack of resources and restriction by roads and Agua Hedionda Lagoon, the remainder of the Specific Plan area does not serve an important role in habitat connectivity in the region. Therefore, all wildlife movement is funneled through the eastern region of the Specific Plan area. Wildlife may be disrupted temporarily during construction due to noise or increased human presence, but these effects are considered temporary in nature and implementation of the overall Specific Plan will not result in permanent direct effects to wildlife movement functions. Following construction, wildlife will continue to use the site to aid in movement to other areas of biological value. Any potential indirect effects that would happen would be reduced by the required habitat buffer (**EPF BIO-14**). Therefore, the Specific Plan would not contribute considerably to a significant cumulative effect to wildlife corridors and movement.

**Local Plans, Policies, and Ordinances**

A cumulative effect to regional planning to protect biological resources would occur if the reasonably foreseeable cumulative projects conflict with one or more local policies or

ordinances protecting biological resources. The City is almost entirely built out with only a few vacant parcels and pockets of native and/or naturalized vegetation remaining. All cumulative projects would be subject to review for compliance with all applicable local and regional biological plans, policies, and ordinances. The Specific Plan area is located within the jurisdiction of Carlsbad HMP and complies with the HMP and subsequent guidelines issued by the City. In particular, all EPFs and habitat effect ratios are in accordance with guidelines established in the Carlsbad HMP. Buffers around sensitive habitat follow guidance established in the Guidelines for Riparian and Wetland Buffers. As the Carlsbad HMP is the Multiple Habitat Conservation Program (MHCP) subarea for the City, this Specific Plan is also in accordance with the MHCP. Therefore, there would be no effects to regional resource planning from implementation of the Specific Plan.

The HMP Guidelines require buffers, avoidance from sensitive habitats, including wetlands, riparian, and native upland habitats. Buffer widths of 100 feet are proposed for wetlands and riparian habitat (see **EPF BIO-14**) and 20 feet for other native habitats (see **EPF BIO-13**) within the Specific Plan area. Therefore, there would be no effects to sensitive species that may occupy these habitats and consistency with the Carlsbad HMP.

The Specific Plan applicant has completed all biological surveys and has proposed EPFs (**EPF BIO-1** through **EPF BIO-23**) consistent with the Carlsbad HMP for the Specific Plan's temporary and permanent effects to vegetation communities.

The coastal sage scrub that will be removed by the Specific Plan is not considered environmentally sensitive habitat area because of the predominance of non-native species, evidence of disturbance and perturbation, lack of suitable cover for gnatcatcher and other sensitive species, and lack of continuity with larger intact areas of native vegetation. However, this removal of coastal sage scrub will be mitigated according to the Carlsbad MHP guidelines and Agua Hedionda LUP policies that require replacement at 2:1 ratios and retention of at least 67% coastal sage scrub. Therefore, a potentially significant cumulative effect regarding compliance with local plans, policies, and ordinances to protect biological resources would not result.

### 5.3.5 Cultural Resources

A cumulative effect, in terms of cultural resources, refers to the mounting aggregate effect upon cultural resources due to modern or recent past land use, such as residential facilities, and natural processes, such as erosion, that result from human activity. The cumulative projects listed in **Table 5-1** have potential for inadvertent discovery of archaeological resources of unknown significance. Cumulative projects located within fully developed areas, such as Quarry Creek and the DKN Hotel, would likely have a low chance of accidental discoveries of unknown archeological resources due to previous construction likely removing or destroying

archaeological resources that previously existed within the sites. However, cumulative projects that are in proximity to non-developed areas may have a greater potential to affect both known and unknown archaeological resources. Additionally, the occurrence of known and unknown historical resources that may be affected by the cumulative projects is not known. However, all cumulative projects in sensitive areas would be required to mitigate for potential effects to archaeological and/or historical resources, which would substantially reduce or avoid cumulatively considerable effects. For the reasons stated below, the Specific Plan would not contribute considerably to a cumulatively significate effect to archaeological or historical resources.

**Historic Resources**

As discussed in Section 4.5, Cultural Resources, site records on file at the South Coastal Information Center indicated that one recorded property is located within the Specific Plan area, but the site is not listed on the California Register of Historic Resources and has never been formally evaluated for significance. In addition, this site would not be located within proposed Open Space and would not be disturbed by Specific Plan-related earthwork and construction. Also, no official historic resources are located on or near the Specific Plan site and no historic structures were identified on the Specific Plan area. Therefore, the Specific Plan would not contribute considerably to a cumulatively significant effect to historical resources.

**Archaeological Resources**

On the western portion of the Specific Plan area, the cultural resources constraints study of the Specific Plan area suggests that it is unlikely that significant archaeological deposits remain that warrant archaeological test excavation. There was one prehistoric site in the eastern portion of the Specific Plan site that contained significant archaeological deposits exposed on the surface, but this area would remain untouched by Specific Plan-related improvements because the activities would consist of open space, trails and agriculture. None of these planned activities is a departure from existing uses and thus no new effects will occur.

Given the long history of agriculture in this area, any intact significant archaeological deposits there would be deeply buried. Although no significant or intact archaeological deposits were identified within the Specific Plan, there is a possibility of identifying buried archaeological deposits during Specific Plan-related ground disturbance. However, incorporation of **EPF CUL-1**, which requires an archaeological and Native American monitor be present during all Specific Plan-related ground disturbance to ensure proper treatment of previously undocumented archaeological deposits, would reduce potential effects. Therefore, the Specific Plan would not contribute considerably to a cumulatively significant effect to archaeological resources.

**Paleontological Resources or Unique Geologic Features**

A review of record search data and field survey results did not identify any existing paleontological resources in the Specific Plan area. The underlying geological units have a low to high potential to produce paleontological resources. There is a possibility that paleontological resources that underlie the Specific Plan area could be disturbed during Specific-Plan-related grading and earthwork. However, incorporation of **EPF CUL-3**, which requires implementation of a paleontological monitoring program, would reduce potential effects. Therefore, the Specific Plan would not contribute considerably to a cumulatively significant effect to paleontological resources.

**Human Remains**

Similar to archaeological resources, cumulative effects to human remains would result from an aggregate of disturbance and loss of important human remains. Projects located in the cumulative project area would have the potential to result in an effect associated with human remains from extensive grading, excavation, or other ground-disturbing activities. As standard construction practice, if any remains are encountered during the construction of any of the cumulative projects, the State Health and Safety Code Section 7050.5 states that no further disturbance shall occur in the immediate area until the County Coroner has made the necessary findings as to origin and disposition pursuant to California Public Resources Code Section 5097.98. Each of the cumulative projects would be in required to adhere to the State Health and Safety Codes and other applicable laws for the proper handling of human remains.

The Specific Plan area is not currently, nor has it been historically, used as a cemetery and is not otherwise known to contain human remains. Should human remains be encountered during construction activities, the Specific Plan would also be subject to regulations addressing discovery of human remains as required by **EPF CUL-2** (Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98). In addition, in accordance with state and local guidelines, if the coroner determines the remains to be Native American, the coroner shall contact the Native American Heritage Committee within 24 hours for identification of the deceased Native American.

Overall, adherence to the State Health and Safety Codes, other state and local guidelines, and **EPF CUL-2** would ensure that the Specific Plan would not contribute considerably to a significant cumulative effect to human remains.

## 5.3.6 Geology and Soils

Potential cumulative effects on geology and soils would result from projects that combine to create geologic hazards, including unstable geologic conditions, or contribute substantially to erosion. The majority of effects from geologic hazards, such as rupture of a fault line,

liquefaction, landslides, expansive soils, and unstable soils, are site specific and must be mitigated on a project-by-project basis.

**Fault Rupture**

As discussed in Section 4.6, Geology and Soils, the Specific Plan area is not underlain by known active or potentially active faults, nor does the area lie within an Alquist-Priolo Earthquake Fault Zone. Thus, the Specific Plan would not contribute considerably to a significant cumulative effect resulting from fault rupture.

**Strong Seismic Ground Shaking**

The Newport-Inglewood-Rose Canyon is the closest active fault, approximately 4.5 miles west of the Specific Plan area. Although this fault system has the potential to result in seismic ground shaking within the Specific Plan area, all structures on the site would be required to be designed in accordance with the seismic parameters of the California Building Code, which would minimize potential effects due to a strong seismic event. With implementation of **EFP GEO-1** through **EPF GEO-6**, effects would be less than significant and the Specific Plan would not contribute considerably to a significant cumulative effect resulting from seismic ground shaking.

**Liquefaction**

Given the dense/firm and clayey/plastic nature of the formational deposits found in the area and the absence of shallow groundwater, the potential for liquefaction and seismic settlement is very low. Effects due to the risk of liquefaction are not anticipated to occur. Thus, the Specific Plan would not contribute considerably to a significant cumulative effect resulting from liquefaction.

**Landslides, Lateral Spreading, Subsidence, or Collapse**

Regional mapping and geotechnical investigation found there is low risk for ground failure and landslides. The Specific Plan includes a 50-foot bluff setback for the proposed VSC uses, which would unsure that erosion of the slopes leading to Agua Hedionda Lagoon would be minimized. No construction would occur in the vicinity of the slopes in the remainder of the Specific Plan area because the HMP-OS designation would prohibit development in these areas. The areas within the Specific Plan that would allow development are underlain at depth by dense and hard formational soils. As discussed above, based on the dense/firm and clayey/plastic nature of the on-site formational deposits, as well as the absence of shallow ground water, the potential for liquefaction that could result in lateral spreading or collapse and seismic settlement is very low.

The soils at the base of the northern slope by Agua Hedionda Lagoon would likely have a high potential for liquefaction, however, no VSC uses would be permitted in this area because it is

designated HMP-OS, which prohibits the construction of structures. Since the Specific Plan would not allow for VSC uses in a geologic unit or on soil that is or will become unstable, the Specific Plan would not contribute considerably to a significant cumulative effect resulting from landslides, lateral spreading, subsidence or collapse.

**Erosion**

The Specific Plan has the potential to increase soil erosion or loss of topsoil where the VSC uses are proposed; however, the Specific Plan would be subject to local and state building codes and requirements for erosion control and grading. In addition, all new development would be required to comply with the EPFs, which establishes minimum requirements for grading, including the requirement to obtain a grading permit prior to any grading activities. The grading permit requires a stormwater maintenance program, construction stormwater pollution prevention plan (SWPPP), and other such documentation and information as may be necessary to demonstrate that the grading work would be carried out in conformance with the Specific Plan's plan review process and procedures, and City codes and standards. Furthermore, the Specific Plan would be required to implement **EPF GEO-1** through **EPF GEO-3**).

Although all VSC uses have the potential to increase soil erosion from vegetation removal, grading, and construction activities, compliance with the City's regulations; federal, state, and local laws and regulations concerning building construction; and **EPF GEO-4** through **EPF GEO-6** would reduce effects related to soil erosion. Thus, the Specific Plan would not contribute considerably to a significant cumulative effect resulting from erosion.

**Expansive Soils**

The majority of the soils above the Santiago Formation are expected to be non-expansive to low expansive; however, the clayey colluvium/alluvium in a localized area in the northerwestern portion of the Specific Plan area is likely moderately to highly expansive and would require complete removal prior to any development in that location; however, no VSC uses would be permitted in this area because it is within the proposed HMP-OS designation, which prohibits the construction of structures.

Overall, each cumulative project listed in **Table 5-1** would be required to adhere to required building engineering design per the most recent California Building Code in order to ensure the safety of building occupants and avoid a cumulative geologic hazard. Additionally, projects would incorporate individual EPFs for site-specific geologic hazards present on each individual cumulative project site. Therefore, no potential cumulative effect related to site-specific geologic hazards such as landslides, liquefaction, soil stability characteristics, seismic hazards, and erosion would occur.

## 5.3.7 Greenhouse Gas Emissions

Greenhouse gas (GHG) emissions are said to result in an increase in the Earth's average surface temperature, commonly referred to as "global climate change." Global climate change, by definition, is cumulative as it is the result of combined worldwide contributions of GHGs to the atmosphere over many years.

**GHG Emissions**

As discussed in Section 4.7, Greenhouse Gas Emissions, implementation of the Specific Plan would emit GHGs during construction, however, construction GHG emission would be temporary, and would not occur after buildout of the Specific Plan. Total construction emissions resulting from the Specific Plan are estimated to be 3,575 metric tons of $CO_2E$ per year. Implementation of the Specific Plan would generate GHGs through the operation of new land uses. Operational GHG emissions would include direct sources and indirect sources. Specific Plan activities would emit approximately 33,000 MT $CO_2E$ per year in addition to the existing emissions, which would be maintained (total of 33,116 MT CO2E). Although the Specific Plan would result in an obvious change in the existing GHG emissions, because climate change is occurring on a global scale, it is not meaningfully possible to quantify the scientific effect of new GHG emissions for a single project or plan. Indeed, there is no scientific or regulatory consensus regarding what particular quantity of GHG emissions is considered significant, and there remains no applicable, adopted numeric threshold for assessing the significance of a project's emissions. Furthermore, the global scale of climate change makes it difficult to assess the significance of a single project, particularly one designed to accommodate anticipated population growth. Unlike criteria pollutants, GHG emissions and climate change are not localized effects, and their magnitude cannot be quantified locally.

The increase of approximately 33,116 MT CO2E per year, alone is not sufficiently informative or reliable indicator of the significance of the Specific Plan's GHG emissions. So to determine the significance of this number, these emissions were compared to BAU conditions established by CARB's 2014 AB 32 Scoping Plan Update. Based on CARB's latest evaluation, the Specific Plan would be required to achieve approximately 15.8% reduction in GHG emissions to demonstrate consistency with AB 32. The BAU condition emissions would total an estimated 40,585 MT CO2E per year compared to the 33,116 MT CO2E per year would be emitted by the Specific Plan. As such, the Specific Plan would result in an approximately 18.4% reduction, which is greater than the reduction in GHG emissions required to comply with Assembly Bill (AB) 32 based on the 2014 Assembly Bill 32 Scoping Plan Update. Thus, the Specific Plan would not contribute considerably to a significant cumulative effect resulting from GHGs.

## Conflicts with Applicable GHG Plans, Policies or Regulations

### *Senate Bill 375*

A review of the SANDAG model used in connection with adoption of the 2050 RTP and Sustainable Communities Strategy (SCS) identified the Specific Plan area's traffic analysis zone for construction of 50 acres of regional commercial, which would equate to approximately 653,000 square feet when assuming a 0.3 floor-to-area ratio. The Specific Plan would allow for a 488,000-square-foot regional shopping center; a 2,500-seat (51,000-square-foot) movie theater; a 46,000-square-foot supermarket; and approximately 176.7 acres of P-OS, EAG-OS, AGS-OS, and HMP-OS. As such, the Specific Plan includes approximately 63,000 square feet less land use than the amount included in the SANDAG model and is consistent with the City's General Plan land use designation used by SANDAG to develop its Senate Bill 375 forecasted development pattern in the SCS.

Additionally, the Specific Plan area was identified for regional commercial development in the SANDAG model, which anticipated construction of the kind and quantity by the Specific Plan and demonstrated achievement of the SB 375 reduction targets to the satisfaction of CARB. Therefore, the Specific Plan is consistent with the objectives of Senate Bill 375 and SANDAG's SCS and thus, the Specific Plan would not contribute considerably to a significant cumulative effect from GHGs.

### *City of Carlsbad Draft Climate Action Plan*

A check of the Preliminary Climate Action Plan (CAP) Project Review Checklist showed that the Specific Plan would include applicable GHG reduction measures, including **EPF AQ-3** through **EPF AQ-9**, **EPF AQ-11**, and **EPF AQ-12**. which would make the Specific Plan consistent with the City's Draft CAP. Therefore, the Specific Plan would not conflict with the City's Draft CAP, and thus, the Specific Plan would not contribute considerably to a significant cumulative effect from GHGs.

### *Executive Order S-3-05 and B-30-15*

The regulatory initiatives identified in the Scoping Plan Update would serve to reduce the GHG emissions from implementation of the Specific Plan over time, consistent with the emissions reductions needed to achieve the 2050 goals of Executive Order S-3-05 and 2030 the goals of Executive Order B-30-15. Additionally, Governor Jerry Brown identified goals for further reducing the state's GHG emissions, including increasing the state's Renewables Portfolio Standard from 33% in 2020 to 50% in 2030, cutting the petroleum use in cars and trucks by half, doubling the efficiency of existing buildings, and making heating fuels cleaner. The Specific Plan is consistent with the 2035 reduction target established by CARB, pursuant to Senate Bill

375, for the SANDAG region for securing GHG emissions reductions resulting from vehicle miles traveled by passenger vehicles.

The Specific Plan's post-2020 emissions trajectory is expected to follow a declining trend that would be consistent with the 2030 and 2050 goals. Therefore, the Specific Plan would not conflict with the 2050 GHG reduction goal in Executive Order No. S-3-05 nor the 2030 GHG reduction goal in Executive Order No. B-30-15, and a considerably cumulative effect for GHGs would not occur.

Overall, the Specific Plan would not conflict with applicable GHG plans, policies or regulations and effects would not be cumulatively considerable.

## 5.3.8 Hydrology

In the absence of regulatory controls, the primary potential cumulative effect to hydrology would be to alter the natural hydrology of the region through increases in the area covered by impervious surfaces. Cumulative hydrology effects also result from projects combining to alter the course of surface water flow or to increase flood hazards in a particular area, either through diverting floodways or constructing structures within the floodways.

Each of the cumulative projects listed in **Table 5-1** would be required to comply with Regional Water Quality Control Board (RWQCB) standards for water discharge during both construction and operation phases. Compliance with these standards would minimize effects that increase erosion. Each cumulative project would employ site design features, treatment control, and source control BMPs, as necessary, to control for erosion and drainage. Additionally, several cumulative projects would be located on a previously developed site. For these projects, effects to existing drainage and an increase in surface runoff flow would be minimal. For projects that would be located on vacant land, such as the Specific Plan, proposed surface conditions would mimic existing patterns to the extent feasible, and adherence to a RWQCB Regional Municipal Separate Storm Sewer System Permit would be required to minimize adverse effects to hydrology.

**Hydrology**

The Specific Plan would develop approximately 26.7 of the 203.4 acres as VSC uses, while preserving the remaining approximately 176.7 acres from future construction. As discussed in Section 4.8, Hydrology, construction of any new facilities on the approximately 26.7 acres would be in compliance with all applicable regulations, and would reduce runoff rates to below the existing condition. BMPs would also be implemented, and the construction would be required to adhere to the City's Standard Urban Stormwater Management Plan (SUSMP) requirements for new construction. In addition, hydrologic model testing has verified that the

post-Specific Plan discharge rates and durations were not exceeded in accordance with the SUSMP requirements.

The Specific Plan would require hydromodification to two subwatersheds to ensure the site would continue to drain directly into Agua Hedionda Lagoon as it does in the existing condition. The design of the Specific Plan includes one drainage detention basin for each of these affected subwatersheds (**EPF HYD-1** and **EPF HYD-2**), both for peak flow attenuation and to account for potential hydromodification associated with construction; however, construction of these facilities would be in compliance with all applicable regulations and reduce runoff rates to below the existing condition. In addition, BMPs would be implemented as outlined in a site-specific SWPPP. With the implementation of BMPs, **EPF HYD-3** through **EPF HYD-11**, and the proposed detention basins outline in **EPF HYD-1** and **EPF HYD-2**, all secondary environmental effects would be less than significant and a considerably cumulative effect to drainage would not occur.

**Groundwater Resources**

A cumulative effect to groundwater resources would result from cumulative projects drawing from a common groundwater source such that, in combination, the resources were depleted to unsustainable levels. Assessment for groundwater resources would occur on a project-by-project basis due to site-specific conditions. Each of the cumulative projects in the area would have water supplied by existing water supplies and distribution pipelines from the Carlsbad Municipal Water District and the San Diego County Water Authority.

The Specific Plan only proposes to devote approximately 26.7 of the 203.4 acres of the site to VSC uses. The remaining approximately 176.7 acres would be preserved from future construction and would remain as a pervious surface in perpetuity. VSC and AGS-OS portions of the Specific Plan area would increase impervious area by approximately 30 acres compared to the exiting condition. This would increase runoff by 22.5 acre-feet per year. Neither this increase in impervious area nor resulting runoff volumes would significantly deplete groundwater supplies or interfere substantially with groundwater recharge. In addition, there are no existing groundwater wells located on the Specific Plan site or in the immediate vicinity, and the groundwater in the Specific Plan area is not used for water supply.

Construction on the Specific Plan area may require dewatering for the removal of standing water on site, vector control, or other reasons, Further, dewatering may be necessary if grourndwater is encountered during grading, If dewatering is required, it would not substantially deplete area groundwater or interfere with groundwater recharge.

Overall, the Specific Plan would not contribute considerably to a significant cumulative effect to groundwater resources; and, due to reliance on non-groundwater resources, cumulative projects would not result in the substantial depletion of known groundwater resources.

### Drainage Patterns

After implementation of the Specific Plan, drainage from the site would continue to discharge into Agua Hedionda Lagoon, as it does under existing conditions. Implementation of the Specific Plan would alter two of the seven watersheds on site. However, flows from these areas would be reduced to below the runoff under existing conditions through implementation of detention basins on site.

The Specific Plan area would implement one of two hydromodification control options. The first would be an exemption from the MS4 Permit's hydromodification control requirements, granted by the City. If an exemption is not granted by the City, the second of the two control options would be the implementation of the City's hydromodification control performance standard (**EPF HYD-9**). To implement this performance standard, the Specific Plan area would use on-site hydromodification control management approaches that include flow control BMPs to protect Agua Hedionda Lagoon. Hydromodification control BMP selection for the Specific Plan area would be finalized in future planning phases and would meet or exceed the established hydromodification control performance standard. With the implementation of either of the two hydromodification control options, hydromodification effects, such as erosion, resulting from the Specific Plan area would not be substantial. In addition, no flooding on or off the site is anticipated. Thus, the Specific Plan would not contribute considerably to a significant cumulative effect to existing drainage patterns.

### Runoff Water

Both under existing conditions and after implementation of the Specific Plan, all drainage would discharge directly into Agua Hedionda Lagoon. Therefore, runoff would not use existing stormwater drainage systems. In addition, as outlined previously, approximately 85% of the Specific Plan area would be preserved as open space, preserving the natural drainage. Implementation of the Specific Plan on the western edge of the site would potentially alter Subwatersheds 5 and 7; however, through implementation of detention facilities, all runoff from the Specific Plan site would be reduced to levels below existing conditions. Therefore, the Specific Plan would not contribute considerably to a significant cumulative effect from runoff water.

### Flood Hazard

The Specific Plan does not propose any housing on site. Eastern portions of the Specific Plan area are located within the 100-year floodplain, as delineated on FEMA FIRM Panel 0768G. However, no structures are proposed within this portion of the Specific Plan area, or adjacent to this flood hazard area and this portion of the site would be preserved in perpetuity as open space.

None of the four dams within or adjacent to the Carlsbad area is directly upstream of Agua Hedionda Lagoon and the adjacent Specific Plan area; therefore, failure would not result in flooding on site. In addition, the site is not located within a high-risk dam inundation area, as mapped by the County of San Diego for hazard mitigation planning. As such, the Specific Plan would not contribute considerably to a significant cumulative effect from flooding.

**Seiche, Tsunami, or Mudflow**

The Specific Plan area is not underlain by known active or potentially active faults, nor does the Specific Plan area lie within an Alquist-Priolo Earthquake Fault Zone; therefore, the risk of seiche is minimal. The Specific Plan area is located directly south of Agua Hedionda Lagoon. Although this lagoon is a potential tsunami inundation area, the Specific Plan area is located outside the tsunami inundation line. The Specific Plan area drains to Agua Hedionda Lagoon, directly north of the site and away from the Specific Plan area. Therefore, effects associated with mudflow are not anticipated. Thus the Specific Plan will not contribute to a significant effect resulting from inundation by seiche, tsunami, or mudflows.

## 5.3.9 Water Quality

Cumulative water quality effects result from projects that combine to either pollute or increase the turbidity of water. Cumulative effects can also result from the increase of release of nonpoint source pollutants (i.e., motor fuels, trash, and sediment). Each of the cumulative projects listed in **Table 5-1** would be required to comply with Regional Water Quality Control Board (RWQCB) standards for water discharge during both construction and operation phases. Compliance with these standards would minimize effects that increase stormwater pollution. Each cumulative project would employ site design features, treatment control, and source control BMPs, as necessary, to control for stormwater pollution. For projects that would be located on vacant land, such as the Specific Plan, proposed surface conditions would mimic existing patterns to the extent feasible, and adherence to a RWQCB Regional Municipal Separate Storm Sewer System Permit would be required to minimize adverse effects to water quality.

**Water Quality Standards or Waste Discharge Requirements**

Average annual runoff volumes are expected to increase by 22.5 acre-feet within the Specific Plan area with completion of the VSC portion of the site. Construction effects associated with the Specific Plan will be minimized through implementation of construction BMPs that would comply with the Construction General Permit, as well as BMPs that control the other potential construction-related pollutants (e.g., petroleum hydrocarbons and metals). A SWPPP specifying BMPs for the site that meet or exceed the Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology (BAT/BCT) standards will be developed as required by and in compliance with the Construction General Permit. Erosion control BMPs,

including but not limited to hydro-mulch, erosion control blankets, stockpile stabilization, and other physical soil-stabilization techniques will be implemented to prevent erosion. Sediment control BMPs, including but not limited to silt fencing, sedimentation ponds, and secondary containment on stockpiles will be implemented to trap sediment and prevent discharge. Non-stormwater and construction waste and materials management BMPs, such as vehicle and equipment fueling and washing BMPs, nonvisible pollutant monitoring, and BMPs to manage materials, products, and solid, sanitary, concrete, hazardous, and hydrocarbon wastes, will also be deployed to protect construction site runoff quality (**EPF WQ-1** through **EPF WQ-6**). With implementation of BMPs and incorporation of **EPF WQ-1** through **EPF WQ-6**, the Specific Plan will not contribute to a significant cumulative effect to water quality.

**Increases in Stormwater Runoff Volumes and Pollutants**

MS4 Permit and Construction General Permit-compliant BMPs would be incorporated into the Specific Plan area to target pollutants of concern for both the construction (**EPF WQ-1** through **EPF WQ-6**) and post-construction (**EPF WQ-7** through **EPF WQ-17**) phases. The Specific Plan would not violate any water quality standards or waste discharge requirements. In addition, Water Quality modeling found that the total suspended solids in stormwater runoff from the Specific Plan area would comply with the Basin Plan water quality objective for phosphorus and would decrease loads of total suspended solids by 8.2 tons per year. The Specific Plan condition with BMPs (**EPF WQ-7** through **EPF WQ-24**) would decrease the discharge of total phosphorus load by 150 pounds per year.

Specific Plan area BMPs would include LID site design (**EPF WQ-18**), source control, and LID structural BMPs (**EPF WQ-19**) consistent with the MS4 Permit requirements. Site design BMPs, especially the minimization of impervious area and the preservation of approximately 176.7 acres of agriculture and open space within the Specific Plan area, would reduce the effects associated with increases in stormwater runoff volume. Implementing partially or fully infiltrating BMPs, which is likely to occur as part of the buildout of the Specific Plan area, would result in a smaller change in runoff volumes between the existing and Specific Plan area conditions. Therefore, with the Specific Plan area BMPs in place, the Specific Plan would not cause a cumulatively considerable adverse effect to water quality resulting from increases in stormwater runoff volumes and pollutants.

**Wastewater Effects**

The Specific Plan would include the implementation of BMPs that would protect groundwater quality from total dissolved solids concentrations in recycled water and BMPs that would be implemented per the Landscape Irrigation General Permit; therefore, effects to groundwater total dissolved solids concentrations from the application of recycled water would be lessened.

In addition, wastewater treatment is anticipated to provide some treatment of constituents of emerging concern originating from recycled wastewater to be used for irrigation. The Specific Plan would implement any control measures that result from the state-level program to evaluate the occurrence and effects of constituents of emerging concern in reclaimed water, which would ultimately reduce water quality effects.

Overall, the Specific Plan would not cause a cumulatively considerable effect resulting from the wastewater used in recycled water application.

**Agricultural Operation Effects**

The Specific Plan would convert some existing agricultural land uses to commercial land uses, which would effectively reduce concentrations of most constituents of concern in runoff. The Specific Plan would also convert some fallow agricultural land to passive open space and native habitat restoration areas, which would also result in an improvement in water quality. The combination of SWPPP implementation, implementation of BMPs (**EPF WQ-21** through **EPF WQ-31**), and the monitoring and reporting program required by the waste discharge requirements would ensure that potential cumulatively considerable effects from agricultural activities would not occur.

## 5.3.10 Hazards and Hazardous Materials

**Hazardous Materials**

Cumulative effects related to hazards and hazardous materials would result from projects that combine and increase exposure to hazards and hazardous materials. Hazardous soils, underground storage tanks, and other existing sources of hazardous materials are generally site-specific and handled on a project-by-project basis. Most of the cumulative projects listed in **Table 5-1** would not be expected to increase exposure or the chance of the release of hazardous materials, as each proposed land use (residential, general commercial, and hotel) does not typically handle large quantities of potentially hazardous materials. The one industrial project on the list, the Carlsbad Desalination Plant, includes mitigation that requires the project to contribute to the cleanup of potential hazardous contamination in the area. Further, all the cumulative projects would be required to comply with federal, state, and local standards regarding the handling, use, transport, storage, and disposal of hazardous materials, which are intended to minimize risk to public health and the environment. Cumulative projects would also be required to minimize erosion and pollution discharge through compliance with the RWQCB through implementation of project-specific BMPs and SWPPPs (or equivalent, per project).

Implementation of the Specific Plan would result in the construction of approximately 26.7 acres as VSC uses. The other approximately 176.7 acres will be preserved as open space. As discussed

in Section 4.10, Hazards and Hazardous Materials, during the construction of the VSC uses, the construction specification would include provisions to properly manage hazardous substances and wastes. Once construction is complete and the Specific Plan has entered the operational phase, the transport, use, and disposal of hazardous materials would comply with all federal, state, and local laws regulating the use, transport, storage, management, and disposal of hazardous materials. Therefore, effects associated with long-term operation of the Specific Plan are not expected.

The potential hazardous substances associated with agricultural practices that would continue as part of the Specific Plan would be managed according to agricultural best practices (see **EPF HAZ-1**) and therefore would result in less than significant effects. The Specific Plan would not develop commercial or industrial uses in the extreme southwestern corner of the Specific Plan site where investigations determined there is toxaphene in concentrations exceeding the California Human Health Screening Levels and the EPA Region 9 Regional Screening Levels for commercial/industrial use. As such, no release of hazardous materials into the environment would occur with the implementation of the Specific Plan. In addition, all soil testing where the approximately 26.7 acres of VSC uses are proposed revealed that soils are suitable for commercial/industrial use. Further, no schools are located within 0.25 miles of the Specific Plan area.

Overall, due to compliance with applicable hazardous materials regulations and site-specific analysis of existing hazardous materials within each cumulative project site, a potential cumulative effect would not occur and the Specific Plan would not contribute considerably to a cumulative effect to hazardous materials.

**Airport Hazards**

A cumulative effect to airport hazards would result if cumulative projects are located in and conflict with an airport land use plan or if they are within 2 miles of a public airport or private airstrip.

The McClellan–Palomar Airport is located approximately 1.5 miles to the southeast of the Specific Plan area. The extreme eastern edge of the Specific Plan and three of the cumulative projects (Poinsettia 61, Westin Hotel & Timeshare, and Encinitas Creek Apartment Homes) are located within the McClellan–Palomar Airport Land Use Compatibility Plan's (ALUCP) Airport Safety Zone 6. Safety Zone 6 has little if any use restrictions or limitations outlined in the ALUCP, and none of the cumulative projects conflict with ALUCP policies. In addition, the area of the Specific Plan that falls within Safety Zone 6 is planned to be permanently preserved as open space, which is compatible with all ALUCP policies. There are no private airstrips in the

vicinity of the Specific Plan area; therefore, no significant cumulative effect to airport hazards would result from implementation of the Specific Plan.

**Emergency Response**

A cumulative effect to emergency response would result if cumulative projects obstructed evacuation plans or reduced the ability for delivery of adequate emergency services. Cumulative projects in the nearby area would have the potential to impair existing emergency and evacuation plans. This could occur from an increase in population that is induced from cumulative projects that are unaccounted for in emergency plans, an increase in population that emergency response teams are unable to service adequately in the event of a disaster, and evacuation route impairment if multiple construction projects concurrently block multiple evacuation or access roads. However, cumulative projects would be required to comply with applicable emergency response and evacuation policies such as the Federal Response Plan, the California Emergency Services Act, and local fire codes, all of which would minimize adverse effects to emergency response.

Implementation of the Specific Plan would result in new development, which could result in an increase in demand for emergency services and could affect the implementation of adopted emergency response and evacuation plans. However, the Specific Plan does not include residential or other uses that would substantially increase the need for emergency services. In addition, the Specific Plan area is adequately served by emergency service and the plan would be required to comply with applicable emergency response and evacuation policies as well. Therefore, the Specific Plan would not contribute considerably to a significant cumulative effect to emergency response.

**Wildland Fire Hazards**

A significant cumulative effect to wildfire hazards would result if the cumulative projects substantially increased the risks of wildfire through the introduction of new significant ignition sources in wildfire areas or a substantial increase in properties and people in areas of high wildfire risk. According to the California Department of Forestry and Fire Protection's Very High Fire Hazard Severity Zones in LRA (Local Responsibility Area) Carlsbad Map, the cumulative study area is not located within or adjacent to a Very High Fire Hazard Severity Zone. Any project that may be located near wildlands would comply with local fire codes to minimize hazards related to wildfires. Therefore, no potentially significant cumulative effect to wildfire would result.

The Specific Plan area is primarily located in an area designated "little to no fire threat" in the City's General Plan Update, due to its coastal location, proximity to a large water body, and generally urban surroundings. All construction under the Specific Plan would conform to the

County Fire Code, which provides minimum requirements for access, water supply and distribution, construction type, fire protection systems, and vegetation management (see **EPF FP-1, EPF BIO-12**, and **EPF BIO-7**). In addition, a minimum of 50 feet of defensible space for structures would be provided. A small portion of the eastern Specific Plan area is designated a high fire hazard severity zone; however, this area is proposed to be permanently preserved in open space, and no development would occur within this area. As such, the Specific Plan would not contribute considerably to a cumulatively significant effect to wildland fire hazards.

## 5.3.11 Land Use and Planning

**Physically Divide an Established Community**

A cumulative effect would occur if the construction of cumulative projects resulted in the division of an established community. Projects that would result in physical division of an established community would include large infrastructure projects such as new freeways, dams, or other facilities that completely impede movement between two areas. None of the cumulative projects listed in **Table 5-1** would be expected to result in physical division of an established community.

The Specific Plan area immediately abuts a major transportation route, I-5, to the west, and a major roadway (Cannon Road) to the south. Agua Hedionda Lagoon borders the area to the north and east. Commercial and institutional uses are located to the south of Cannon Road and west of I-5. LEGOLAND California resort (amusement park) and hotel, Sheraton Carlsbad Resort and Spa, and the Hilton Grand Vacations Club are further east and southeast of the Specific Plan area, and Car Country Carlsbad, Carlsbad Premium Outlets, and related retail and restaurants are further south. The Specific Plan would allow for approximately 26.7 acres of VSC uses adjacent to I-5, providing continuity with the existing commercial development that currently surrounds the Specific Plan area to the west and south. Land uses would not impede access to any portion of an existing community and the surrounding existing commercial centers. Therefore, the Specific Plan would not cause a cumulatively considerable effect by physically divide an established community.

**Environmental Plans, Policies, and Regulations**

Significant adverse cumulative land use effects would result from projects that contribute to construction that is inconsistent with applicable plans or incompatible with existing or planned uses or planned addition of incompatible uses. All cumulative projects listed in **Table 5-1** would be subject to similar plan consistency criteria as the Specific Plan, which would ensure compliance with existing applicable land use plans with jurisdiction over the Specific Plan area. Any cumulative projects that propose amendments to the general plan or zoning ordinance would be required to show that proposed uses would be consistent with applicable policies. Therefore, the discretionary review process and long-term planning at the City of Carlsbad would ensure

that all construction projects within the City's jurisdiction show consistency with the General Plan and all other applicable plans for the area. Cumulative projects that exist outside the City's jurisdiction would be required to show consistency with relevant and applicable planning documents that govern each respective jurisdiction.

As discussed in Section 4.11, Land Use and Planning, the land use designations created by the Specific Plan are consistent with those of the current General Plan. The VSC designation provides for consistent allowed uses and construction as the Travel Recreation (TR) land use designation of the General Plan. Similarly, the HMP-OS, P-OS and EAG-OS designations and allowed uses are consistent with the General Plan's Open Space land use designations. The Specific Plan will also implement goals and policies consistent with the General Plan, both in its current form and as updated.

The Specific Plan is regulatory in nature, and the land use plan and designations, zoning, development regulations, design guidelines, implementation program, conditions, and EPFs shall govern all uses within the Specific Plan area. Except as otherwise provided herein, this Specific Plan shall fully replace and supersede all those provisions of the Carlsbad Municipal Code and other applicable, adopted rules, regulations, or official policies of the City, as they may otherwise apply to all property and development within the Specific Plan area.

Matters not specifically regulated or required by this Specific Plan shall be subject to the Carlsbad Municipal Code and other applicable, adopted rule, regulation, or official policy of the City, in addition to all applicable, adopted federal, state, and regional laws and regulations. Chapter 3 of the Coastal Act sets forth the standards by which the adequacy of local coastal programs and the permissibility of proposed development are determined. These policies generally protect public coastal access, the marine environment, commercial fishing, recreational boating, environmentally sensitive habitat areas, prime agricultural land, and scenic and visual qualities of coastal areas by regulating the siting and design of coastal development.

The Specific Plan implements the policies of the Agua Hedionda LUP (1982). The land use designation for the approximately 48 acres of property on the west side of the Specific Plan area (i.e., identified as 45 acres in the Agua Hedionda LUP (1982)) is "TS" (Travel Services). The Specific Plan's Visitor-Serving Commercial (VSC) designation herein implements the TS designation. The Agua Hedionda LUP (1982) land use designation for the remaining Specific Plan area is "OS" (Open Space). The Specific Plan's regulated agricultural and open space uses herein implement this LUP OS designation.

To ensure consistency, the Specific Plan Initiative amends portions of the Agua Hedionda LUP (1982), including the TS designation. As a result, the Specific Plan shows that the former LUP

TS designation has been changed to VSC, Exclusive Agricultural Open Space (EAG-OS), and Agricultural Support Open Space (AGS-OS).

The Specific Plan's consistency with the Coastal Act is provided in **Appendix Q**, Coastal Act Consistency Analysis, Table 1. The Specific Plan area is within the jurisdiction of the Carlsbad HMP and complies with the Carlsbad HMP and subsequent guidelines issued by the City. In particular, all mitigation measures and habitat effect ratios identified in Section 4.4, Biological Resources, are in accordance with guidelines established in the Carlsbad HMP. Buffers around sensitive habitat (e.g., riparian, wetland, and coastal sage scrub) follow guidance established in the Guidelines for Riparian and Wetland Buffers. Because the Carlsbad HMP is the MHCP subarea plan for the City, this Specific Plan is also in accordance with the MHCP.

Overall, no potentially significant cumulative effect to conflicts with land use plans, policies, and regulations would result.

### 5.3.12 Mineral Resources

As discussed in Section 4.12, Mineral Resources, the Specific Plan area is located in an MRZ-3 Zone, indicating that mineral deposits, specifically aggregate resources for the production of Portland cement, are likely to occur in the region; however, the significance of those deposits are unknown. The site-specific geotechnical investigation for the Specific Plan area did not reveal the presence of important mineral resources; therefore, **no effects** would arise because the Specific Plan would not result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the state.

In addition, the Specific Plan area has not been delineated as an important mineral resource recovery site in the City's existing General Plan. Therefore, **no effects** related to the loss of availability of a locally important mineral resource recovery site are anticipated. As such, no potentially significant cumulative effects related to the availability of a local or regional mineral resource would occur.

### 5.3.13 Noise

A cumulative effect would occur if the construction of cumulative projects resulted in the exposure to or generation of noise levels in excess of standards, exposure to or generation of excessive ground-borne vibration, or increases in permanent or periodic ambient noise levels. None of the cumulative projects listed in **Table 5-1** would be expected to result in the increase of any of these noise considerations because they would be subject to City General Plan and Municipal Code noise standards.

### Noise Levels in Excess of Standards

As discussed in Section 4.13, Noise, the Specific Plan would generate noise from increased traffic. At buildout, the Plan would generate a net traffic volume increase over existing volumes, and the additional traffic would increase the noise along the adjacent roads by 1 decibel (dB) or less. In the long term (2035), Specific Plan traffic would increase the noise by 2 dB or less relative to existing conditions and by 1 dB or less relative to future noise levels without the Specific Plan traffic. Therefore, the Specific Plan would not cause an exceedance of City noise/land use compatibility standards, and the noise level increase would not contribute considerably to a cumulative effect.

### Increase in Ambient Noise

Most on-site activities related to the Specific Plan would be passive in nature (e.g., hiking, wildlife viewing, picnic areas), and therefore would result in relatively low noise levels, particularly in the eastern portions of the Specific Plan area. Long-term operational noise from the VSC uses would result from off-site traffic and on-site activities associated with the Specific Plan. This noise, however, would not result in a substantial increase in ambient noise levels in the Specific Plan vicinity above existing levels. Thus, the noise level increase associated with the on-site operational activities would not contribute considerably to a cumulative effect.

Short-term noise would result from Specific Plan construction; however, the work conducted as part of the Specific Plan would take place within the hours recommended by the City of Carlsbad's Noise Control Ordinance (Monday through Friday from 7 a.m. to 6 p.m., Saturday from 8 a.m. to 6 p.m., and no work on Sundays or federal holidays). Accordingly, the Specific Plan would not result in exposure of persons to, or generation of noise levels in excess of, standards established in the City's Noise Control Ordinance or other applicable noise standards. Construction noise would have less than significant effects; however, it would be audible and could result in periods of annoyance. With the incorporation of **EPF NOI-1**, best practices would be required to reduce construction noise at noise-sensitive receivers and at adjacent biological habitat areas; therefore, noise associated with construction would not contribute to a cumulatively significant effect to.

### Ground-Borne Vibration

The closest existing residences to the Specific Plan area would be approximately 1,700 feet or more from the Specific Plan development, and a nearby hotel would be approximately 700 feet away. At these distances, the peak particle velocity from construction would be below the threshold of perceptibility. Therefore, vibration from construction activities would not contribute significantly to a cumulative noise effect.

### Noise to Biological Habitat Areas

As part of the Specific Plan, biological habitat areas would constitute a significant portion of the Specific Plan area. Additionally, the VSC area would include a biological habitat zone along its northern boundary. Nesting birds can be significantly affected by short-term construction-related noise, resulting in decreased reproductive success or abandonment of an area as nesting habitat. Breeding passerine and raptor species likely use the various habitats on site for nest construction and foraging. Indirect effects from construction-related noise may occur to sensitive wildlife if construction occurs during the breeding season (February 15 through September 1).

The City's Guidelines for Wetland and Riparian Buffers include Minimization Measure 6, Noise Abatement, states that construction noise shall not exceed 60 dBA $L_{eq}$ within the riparian/wetland habitat and buffer. If riparian/wetland habitat or buffer is occupied by sensitive species, species-specific conditions pursuant to the Habitat Management Plan and state and federal laws must be met. In addition, the Guidelines for Wetland and Riparian Buffers state that construction noise levels at the riparian canopy edge where least Bell's vireo (*Vireo bellii pusillus*) occur shall be kept below 60 dBA $L_{eq}$ from 5:00 a.m. to 11:00 a.m. during the peak nesting period of March 15 to July 15. For the balance of the day/season, the noise levels shall not exceed 60 dBA, averaged over a 1-hour period ($L_{eq}$(h)). Noise levels shall be monitored and monitoring reports shall be provided to the City, U.S. Fish and Wildlife Service, and California Department of Fish and Wildlife.

Detailed site plans have not yet been prepared for the Specific Plan; however, it is likely that construction activities could take place relatively near (within approximately 50 feet of) biological habitat. Assuming this is the case, noise levels from construction could be as high as 86 dBA $L_{eq}$ during the loudest phases of construction. Biological habitat areas within 1,000 feet of the construction area could experience noise levels exceeding 60 dBA $L_{eq}$. **EPF NOI-2** is required to control construction noise at biological habitat. With implementation of **EPF NOI-2**, construction noise would not contribute to a considerably cumulative effect to noise.

### Airport Noise Hazards

The Specific Plan area is within the McClellan–Palomar Airport Influence Area/ALUCP, but is outside the airport's 60 dBA community noise equivalent level contour line. The extreme eastern edge of the Specific Plan area is located in Airport Safety Zone 6; however, because this area of the Specific Plan area is planned to be permanently preserved in open space, the Specific Plan area will not contribute significantly to a cumulative airport effect to noise.

## 5.3.14 Population and Housing

### Population Growth

Of the cumulative projects, the Quarry Creek project contributes directly to population growth in the area, as it includes a residential component of 656 residential units. The Encinitas Creek Apartment Homes project also would add a five-lot subdivision for five separate apartment buildings to the area. Cumulative projects such as the Westfield Carlsbad Specific Plan/Site Development Plan include commercial land uses that may also result in growth from attracting employees and tenants. Although the majority of the cumulative projects would be considered growth inducing, the growth would not be considered substantial because the City is almost completely built out, and any new construction would be infill or repurposing of underutilized land.

The Specific Plan includes approximately 26.7 acres of VSC uses and approximately 176.7 acres of agricultural and open space uses. The introduction of these uses would potentially increase the amount of visitors to the Specific Plan area directly, due to new businesses, and indirectly, due to new roads and trails. The implementation of new businesses in the Specific Plan area would generate new jobs. As a result of the Specific Plan, the current estimate of new full time equivalent (FTE) jobs (includes direct, indirect, and induced jobs) from construction and the ongoing operation of the Specific Plan area would be created. However, because the Specific Plan area does not contribute to new residential facilities, or include any residential land uses, permanent population increase would not result with the implementation of the Specific Plan. Although the Specific Plan would generate new jobs and potentially increase the amount of visitors from surrounding areas, it would not induce substantial population growth. Therefore, the Specific Plan would not contribute considerably to a cumulatively significant effect to population growth.

### Displacement of People or Housing

A cumulative effect would result if the cumulative projects resulted in the displacement of a substantial number of housing or people such that replacement housing would be required elsewhere. The cumulative projects listed in **Table 5-1** would not result in the substantial displacement of a large number of people or housing because the facilities involve revitalization of existing, new, or additional housing. No replacement housing would be required elsewhere as a result of the cumulative projects.

The Specific Plan area does not encompass land with existing housing, and the Specific Plan does not include any residential land uses. Implementation of the Specific Plan would not result in displacement of people or construction of housing; therefore, no significant cumulative effect to displacement of housing or people would occur.

## 5.3.15 Public Services

Cumulative effects include effects on public services (fire protection, police protection, schools and libraries) that would result when projects combine and increase demand on services such that additional services must be constructed or provided. Each of the cumulative projects listed in **Table 5-1** would result in the incremental increase in the demand for fire protection, police protection, libraries, schools (for cumulative projects that have a residential component such as the Encinitas Creek Apartment Homes and State Street Townhomes), and other public services. Because the City is nearly built out, most cumulative projects are located in areas currently served by fire and police protection providers with adequate response times. Additionally, each cumulative project, including the Specific Plan, would be required to comply with the conditions for construction in the applicable Local Facilities Management Zone (LFMZ), and would be required to pay a public facilities fee that is intended to offset the effect of new construction on public services providers.

**Fire Protection**

The Specific Plan includes approximately 585,000 square feet of Visitor-Serving commercial uses and approximately 176.7 acres of agricultural and open space uses. As discussed in Section 4.15, Fire Protection, the introduction of these uses would potentially increase demands for fire protection; however, there are two existing fire stations located within 3 miles of the Specific Plan area that would be sufficient to serve the Specific Plan. The Specific Plan does not include any residential land uses and the population of the Specific Plan area would not increase. The Specific Plan would not cause a substantial increase in demand for fire protection facilities and no new or physically altered facilities would be required. In addition, the Specific Plan incorporates **EPF FP-1** to ensure compliance and/or help to reduce effects. Therefore, the Specific Plan would not contribute considerably to a cumulative effect to fire protection.

**Police Protection**

In regard to police protection, as discussed in Section 4.16, Police Protection, the Specific Plan area is surrounded by existing development and is currently served by the existing Police Department. Since the Specific Plan does not include any residential land uses, the population of the area would not increase. Therefore, there would be no substantial increase in demand for police protection facilities, and no new or physically altered facilities would be required. Therefore, the Specific Plan would not contribute considerably to a cumulative effect to police protection.

**Schools**

As discussed in Section 4.17, Schools, because the Specific Plan does not include any residential land uses the population of the Specific Plan area would not increase as a result of

implementation of the Specific Plan. Therefore, the demand for schools would not change, and there would be no need for new or physically altered school facilities. In addition, the Specific Plan incorporates **EPF SCH-1** to ensure compliance and/or reduce effects to schools. Therefore, the Specific Plan would not contribute considerably to a cumulative effect to schools.

**Libraries**

As discussed in Section 4.18, Libraries, because the Specific Plan does not include any residential land uses the population of the Specific Plan area would not increase as a result of implementation of the Specific Plan. Therefore, the demand for libraries would not change, and there would be no need for new or physically altered library facilities. However, in order to comply with the LFMP for Zone 13, the payment of the Public Facilities Fee would be required. The Specific Plan incorporates **EPF LB-1** to ensure proper payment of applicable fees and taxes. Therefore, the Specific Plan would not result in the need for new library facilities and upon payment of the Public Facilities Fee, the Specific Plan would not contribute considerably to a cumulative effect to libraries.

### 5.3.16 Parks and Recreation

Similar to public services, cumulative effects to recreation would result when projects combine and increase demand for park and recreation facilities. Increases in demand for parks would result from projects that would introduce a new resident population to the City. Of the cumulative projects, Encinitas Creek Apartment Homes and State Street Townhomes would contribute to an increase in demand for parks and recreation facilities; however, extensive existing parks, recreation facilities, and open space exist within the City and in adjacent areas. The City of Carlsbad currently has 12 community parks, 25 special use areas and 5 special resource areas that offer recreational facilities for residents and visitors. These facilities serve both local and regional needs. The City currently surpasses the recommended park acreage service level based upon population, and is projected to meet park acreage standards through 2018, based on the City's comprehensive action plan within the Parks and Recreation Master Plan.

**Parks and Recreational Facilities**

As discussed in Section 4.19, Parks and Recreation, the Specific Plan area would not affect existing parks or recreational facilities, but rather, provide low-effect public access for passive recreation amenities on land that is currently not accessible to the public.

Park and recreation uses that allow public gathering spaces and are compatible with other open space uses would offer opportunities for more community use and enjoyment of the area. The Specific Plan area presents opportunities for the City to create a sustainable, community-oriented, low-effect recreational area. Implementation of the Specific Plan area would not result

in increased use of existing neighborhood and regional parks, due to the Specific Plan area providing for an increase in public recreational area within the City. The Specific Plan area would potentially extend the life of existing parks by the availability of amenities that the Specific Plan has to offer. Additionally, with consideration of existing park facilities and planned parkland, available parkland is anticipated to accommodate the City without resulting in deterioration of facilities.

The Specific Plan would permanently conserve approximately 176.7 acres of open space lands and agricultural fields (more than 85% of the entire Specific Plan area). The Specific Plan's conservation and enhancement of open space land and agricultural resources would be achieved through the Specific Plan itself and partnerships with one or more land conservancy organizations, governmental agencies, and farming interests. The intent is to permanently conserve, restore, and enhance in perpetuity existing habitat, sensitive wildlife species, riparian and wetland resources, and support existing coastal agriculture and strawberry farming, consistent with the City's open space and agriculture heritage, while also designating portions of the open space and agricultural fields to low-effect public access that would allow for passive recreation amenities.

The Specific Plan area is included in the Cannon Road Open Space, Farming, and Public Use Corridor as designated by both the Current General Plan and the Proposed General Plan Update. The areas is recognized for its significant open space opportunities, which currently lack adequate public access and public use areas so that the community can enjoy the open space opportunities provided in this area to their fullest potential. In addition, proposed low-effect recreational facilities would be consistent with the City's Open Space Management Plan, Proposition C, Zone 13 LFMP, the Coastal Act, Agua Hedionda LUP, and the Carlsbad General Plan goals and policies related to parks and recreation.

The Specific Plan would maximize public access to and along the coast, and park and recreation uses would allow for public gathering spaces compatible with other open space uses, to offer opportunities for more community use and enjoyment of the area, consistent with sound resources conservation principles. The Specific Plan would also incorporate **EPF REC-1** to avoid or substantially remove all potential environmental effects to the maximum extent feasible. Therefore, the Specific Plan would not contribute considerably to an adverse cumulative effect to parks and recreational facilities.

**Performance Objectives for Parks**

The Specific Plan does not include any residential land uses and direct population growth would not occur as a result of implementation of the Specific Plan. Therefore, the demand for parks would not change and there would be no need for new or physically altered park facilities.

Additionally, the Specific Plan would provide for the dedication and preservation of all designated open space land to a qualified land conservancy, or governmental agency, and provide a permanent open space easement in favor of the City. The land conservancy would serve as steward of the designated open space land for the future benefit of Carlsbad residents and visitors. The Specific Plan's financing program includes funding generated by the Community Promenade for the acquisition and dedication of designated open space; together with the costs to fund low-effect public access improvements and long-term maintenance in perpetuity with no present or future tax burden on either the City or its residents.

The City currently surpasses the recommended park acreage service level based upon population, and is projected to meet park acreage standards through 2018, based on the City's comprehensive action plan within the Parks and Recreation Master Plan. Additionally, with the modest 2020 projected population increase, the Specific Plan area would help satisfy any future additional park acreage needs through inclusion of preserved open space and the trail system. Implementation of the Specific Plan would result in maintaining acceptable service ratios and performance objectives for parks and no cumulatively considerable effects to performance objectives for parks would occur.

## 5.3.17 Traffic and Circulation

As discussed in Section 4.20, Traffic and Circulation, the Traffic Effect Study (TIA) includes a cumulative traffic scenario for the Year 2035.

**Intersection Operations**

The TIA analyzed intersection under Year 2035 (long term) plus Specific Plan conditions, and found that all study intersections would operate at an acceptable LOS D or better, with nine exceptions:

4. Tamarack Avenue/El Camino Real

9. Cannon Road/Paseo del Norte/Specific Plan Driveway

14. Cannon Road/El Camino Real

19. El Camino Real/Faraday Avenue

23. Palomar Airport Road/Paseo Del Norte

24. Palomar Airport Road/Armada Drive

26. Palomar Airport Road/College Boulevard

27. Palomar Airport Road/El Camino Real

32. Alga Road - Aviara Parkway/El Camino Real

As such, these effects would be considered significant, but with incorporation of **EPF TRA-3** through **EPF TRA-11**to the Specific Plan, all affected intersections under Year 2035 (long term) plus Specific Plan conditions would be reduced to a less than significant level.

Therefore, the TIA concluded that the Specific Plan would have a less than significant effect to intersections and would not contribute to a cumulatively considerable effect to intersection operations under Year 2035 (long-term) plus Specific Plan conditions.

**Roadway Segment Operations**

The TIA analyzed roadway segments under Year 2035 (long-term) plus Specific Plan conditions and concluded that all study roadway segments are projected to operate at LOS D or better during both peak hours. As such, the Specific Plan would not result in a cumulatively considerable effect to the study roadway segments under Year 2035 (long-term) plus Specific Plan conditions.

**Freeway Segments**

The TIA analyzed freeway operations for I-5 under Year 2035 (long-term) plus Specific Plan conditions and all freeways segments are expected to operate at undesirable levels (LOS E or F) under 2035 Conditions without and with the Specific Plan, except for the segment between Tamarack Avenue and Carlsbad Village Drive, which operates at LOS D without the Specific Plan and degrades to LOS E with the Specific Plan.

After applying the applicable significant impact criteria from the TIS Guidelines, it was determined that the Specific Plan would result in a significant impact on the five I-5 freeway study segments from La Costa Avenue to Carlsbad Village Drive since the Specific Plan peak hour addition of traffic to the freeway mainline is more than 1% of the per-lane capacity. The Specific Plan trips would be approximately 2-3% of total traffic volume on I-5. However, with implementation of **EPF TRA-12**, which entails fair-share funding toward the I-5 NCCP for planned freeway-related impacts in the Specific Plan area, freeway segment impacts would be addressed and reduced to less than significant.

**Freeway Ramp Operations**

The TIA analyzed freeway ramp operations for I-5 under Year 2035 (long-term) plus Specific Plan conditions and concluded that with the addition of the Specific Plan trips would increase freeway ramp delay by more than 2 minutes compared to Year 2035 baseline conditions and result in a significant effect at the following two ramp locations:

- I-5 southbound on-ramp from Tamarack Avenue

- I-5 southbound on-ramp from Cannon Avenue

For the I-5 southbound Tamarack Avenue on-ramp, the Specific Plan would add a total of 26 trips in the AM peak hour, which equates to 3% of the total ramp volume. As noted in the Specific Plan Trip Generation section of this analysis, the AM peak hour trip generation estimate using SANDAG rates may be at least double the number that would realistically be generated. This indicates that the actual amount of added traffic is likely closer to 13 trips and 1.5% of the ramp volume. As noted under the Existing Conditions and Year 2019 analyses, this would not result in a significant impact with the lower (and more appropriate) trip rate.

Implementation of **EPF TRA-13** and **TRA-14** (fair-share funding toward the I-5 Corridor Program for planned freeway-related impacts in the Specific Plan area) would reduce impacts anticipated under Year 2035 (long-range) plus Specific Plan conditions at the I-5 southbound on-ramp at Tamarack Avenue and the I-5 southbound on-ramp at Cannon Road impacts to less than significant. The addition of a second mixed-flow lane on the I-5 southbound on-ramp at Tamarack Avenue would improve operations on this ramp and reduce the projected vehicle queue; this improvement is included as part of the I-5 Corridor Program. Also, the addition of mainline capacity and an auxiliary lane (extending to Cannon Road) would allow adjustment of ramp metering timing and could also contribute to reduced queues in 2035. The I-5 Corridor Program includes the addition of mainline capacity and construction of an auxiliary lane extending to Palomar Airport Road from the I-5 southbound on-ramp at Cannon Road. Both of these planned improvements would address the anticipated Year 2035 (long-range) plus Specific Plan conditions impact at the I-5 southbound on-ramp at Cannon Road. Therefore, with implementation of **EPF TRA-13** and **TRA-14**, impacts to freeway on-ramp operations under Year 2035 (long-range) plus Specific Plan conditions would be **less than significant**.

**Freeway Off-Ramp Queuing**

According to the TIA (**Appendix N**), under Year 2035 (long-range) plus Specific Plan conditions, the queue at the northbound off-ramp would remain within the available ramp storage during AM and PM peak hours. However, in the PM peak hour, the southbound off-ramp queue would exceed the capacity of the existing turn pockets and would extend into the adjacent lanes, which would potentially compound the queuing problem. Therefore, the Synchro software was not capable of accurately estimating queues under these oversaturated conditions.

Due to this finding, a more detailed evaluation was conducted by Fehr & Peers using the SimTraffic microsimulation tool to calculate the 95th percentile queue (**Appendix N**). The SimTraffic microsumulation software considers lane use, turn pocket storage lengths, upstream/ downstream queue spillbacks, and coordinated signal timings on intersection queuing. The intersections on Cannon Road between Avenida Encinas and Car Country Drive were modeled, and the 95th percentile results were calculated based on an average of five model runs. Under

Year 2035 (long-range) plus Specific Plan conditions, the SimTraffic 95th percentile queues for the I-5 off-ramps at Cannon Road in the PM peak hour are as follows:

- Southbound left-turn/through lane on southbound off-ramp: 350 feet
- Northbound right-turn lane on northbound off-ramp: 450 feet

The projected queue on the southbound off-ramp of 350 feet would remain within the available ramp storage and would not impact mainline operations. Although the northbound off-ramp queue using SimTraffic was longer than what Synchro calculated (SimTraffic: 450 feet vs. Synchro: 375 feet), the "worst-case" queue for the northbound right turn would still remain within the available ramp storage and is also not expected to impact freeway mainline operations. Accordingly, the current ramp configurations would accommodate the addition of the Specific Plan traffic on the Cannon Road off-ramps under Year 2035 (long-range) conditions and Specific Plan-related impacts would not be substantial.

Overall, all facilities would be reduced to a less than significant level, under Year 2035 (long-range) plus Specific Plan conditions. Therefore, the Specific Plan would result in less than significant cumulatively considerable effects.

### 5.3.18 Utilities and Service Systems

As with public services, cumulative effects to utilities and service systems would result when projects combine to increase demand for utilities and service systems such that additional facilities must be provided or expanded.

**Water Service**

The Specific Plan in combination with cumulative projects would result in an increase in water demand; however, the cumulative increase in demand for public utilities for water would not require new or expanded facilities due to the available capacities discussed in Section 4.21, Water Service. Most cumulative projects, including the Specific Plan would receive water service from the Carlsbad Municipal Water District (CMWD) and the Metropolitan Water District of Southern California (MWD). The 2010 Urban Water Management Plans (UWMP) that was prepared by the CMWD and MWD concluded that there are reliable water supplies in place to meet projected demands through 2035.

The Specific Plan would include 585,000 square feet of VSC uses, which would generate a demand of 151 acre feet of water a year for potable water. When combined with future potable water demand from the agricultural uses, total water demand equals 235 acre feet per year. The Specific Plan will utilize recycled water for landscaping and will implement water conservation

features, which will reduce potable water usage by approximately 46 acre feet per year, reducing potable water demand to 189 acre feet per year.

Current water demand projections for the Specific Plan area are 235 afy. With implementation of the Specific Plan and the inclusion of recycled water and water conservation measures, potable water demand would be reduced by 41,046 gpd or by 46 afy. Additionally, growth in the Specific Plan area was factored into the CMWD UWMP, which determined that there are reliable water supplies in place to meet projected demand through 2035. Therefore, sufficient water supplies would be available to serve the Specific Plan area. With the inclusion of **EPF WS-1** through **EPF WS-6**, the Specific Plan would not contribute considerably to a cumulatively significant effect to water service and water service facilities.

**Sewer Service**

The cumulative projects would result in an increase in wastewater generation; however, the cumulative increase in demand for public utilities for wastewater would not require new or expanded facilities. Most of the cumulative projects listed in **Table 5-1** receive sewer service from the City of Carlsbad. Wastewater generated within the City's sewer is within the Encina Wastewater Authority (EWA) service area and is treated at the Encina Water Pollution Control Facility (EWPCF), which provides full secondary treatment, sludge handling, and disposal through a deep ocean outfall. As discussed in Section 4.22, Sewer Service, the current treatment capacity of the EWPCF is 40.51 mgd with its Phase V Expansion Project that was completed in 2009. The EWPCF meets all current federal, state and regional requirements for secondary treatment and is expected to continue to meet these requirements. The cumulative projects listed in **Table 5-1** are generally consistent with land use planning assumptions included in the EWA's planning assumptions for their Phase V expansion plans. As such, it not is anticipated that the implementation of the cumulative projects would result in wastewater treatment demand that would require additional wastewater facilities beyond those planned.

The Specific Plan's projected average flow of 47,300 gpd. The Sewer Master Plan concludes that the South Agua Hedionda Interceptor is sized to accommodate build-out, including the additional development within the Specific Plan area. The incremental flow increase of 9,900 gpd for the Specific Plan area is deemed less than significant since this flow represents less than 5.0 percent of the total average flow projected for LFMP 13 and less than 0.5% of the average flow capacity of the South Agua Hedionda Interceptor at the point of connection. The growth associated with the Specific Plan is also accounted for in the 2012 Sewer Master Plan and there is sufficient treatment capacity at the EWPCF to serve the City through 2035. Therefore, the Specific Plan would not require expansion of new wastewater treatment facilities. In addition, the Specific Plan would implement **EPF SS-1** through **EPF SS-5** that would further lessen effects. Therefore, the Specific Plan would not contribute considerably to a cumulatively significant effect to sewer service.

### Solid Waste

The cumulative projects would result in an increase in solid waste; however, the cumulative increase in demand for solid waste would not require new or expanded facilities. The majority of solid waste generated in the City is sent to the Otay and Sycamore Landfills. Both landfills are expected to be in operation and have sufficient capacity through 2028 and 2031.

Implementation of the Specific Plan would generate approximately 683 tons of solid waste per year. Although the Specific Plan would increase demand for solid waste collection and increase the quantity of solid waste being hauled to existing landfills, adequate landfill capacity is currently available and would continue to be available in the future for the solid waste disposal needs of the Specific Plan. The Specific Plan would require compliance with the City's existing regulations related to solid waste by including **EPF SW-1**, which requires the segregation of solid waste, recyclable materials, and green waste. In addition, the Specific Plan would comply with the City's solid waste regulations and would participate in the City's commercial recycling programs to further reduce the Specific Plan. Therefore, the Specific Plan would not contribute considerably to a cumulative significant effect to solid waste.

### Energy Demand

It is not anticipated that implementation of the cumulative projects listed in **Table 5-1** would result in energy demand that would require additional energy related facilities beyond those planned to serve proposed construction.

Construction of the Specific Plan would occur during daylight hours, from approximately 8 a.m. to 5 p.m., and artificial lighting would not be required. Trails and recreational amenities would most likely be open for public access from sunrise until sunset, and the Community Promenade open for business during the day and for dinner hours, between approximately 9 a.m. and 9 p.m. The Specific Plan's hours of operation for the most part would be during daylight hours, minimizing the need for lighting within the Community Promenade. In addition, building design would employ sustainable, green design and technologies, such as natural lighting and passive heating and cooling, reducing demands for electricity during both peak and non-peak periods.

Furthermore, the Specific Plan would comply with SANDAG's Regional Energy Strategy (RES), and on-site activities related to the majority of Specific Plan would be passive in nature (e.g., hiking, wildlife viewing, and picnic areas) and therefore would result in relatively low energy use levels during peak and base periods.

The Specific Plan applicant will be required to design and construct public facilities within the public right-of-way or within minimum 20-foot wide easements (**EPF ENR-1**). However,

implementation of the Specific Plan would not require additional capacity. Overall, the Specific Plan would not contribute considerably to a cumulative significant effect to energy demand.

**Energy Standards**

The Specific Plan would comply with all applicable federal, state, and local energy standards, as well as incorporating sustainable building design features, ensuring energy efficiency, and encouraging bicycle and pedestrian circulation throughout the Specific Plan area. The Specific Plan, at a minimum, would exceed the 2013 Title 24 standards by 5%. In the event that an update to those standards becomes effective before building permits are secured, the Specific Plan would comply with the then-effective and applicable building standards. Therefore, the Specific Plan would not contribute considerably to a cumulative significant effect to energy standards.

**Energy Resources**

The Specific Plan would increase the areas effect on energy resources; however, the Specific Plan would be consistent with the goals and recommended actions of SANDAG's RES. This will ensure a positive effect on energy resources in the San Diego region. The RES identifies actions that can improve air quality, reduce traffic congestion, save money, create jobs, increase the use of alternative fuels, expand transportation alternatives, ensure an adequate energy supply to meet growth projections, and improve the region's quality of life.

The Specific Plan would also be subject to the Carlsbad Community Vision targets to sustainable energy approaches of particular interest to the city: renewable resources, energy efficiency, conservation, and technological and business partnerships that would contribute to greater energy self-sufficiency in the region.

Although the Specific Plan would increase the areas effect on energy resources, incorporated sustainable green design features, and compliance with all energy regulations would contribute to the City's continuing efforts to decrease the use of energy and fossil fuel consumption. Thus, the Specific Plan would not have considerable cumulative effect on energy resources**.**

**Transportation Energy Use**

Primary access to the Specific Plan area is provided by Interstate 5 (I-5) and Cannon Road. Vehicular access into the Specific Plan area would be provided via a new access road from Cannon Road located between the intersections of Paseo del Norte and Car Country Drive. Traffic would exit the Specific Plan area at Cannon Road and Paseo del Norte. Internal circulation would be provided by a limited network of private drives/streets serving as access to individual portions of the Specific Plan area. The Specific Plan would incorporate green circulation design features such as installation of electronic parking availability signage,

preferential parking for electric vehicles and charging stations for electric vehicle use. In addition, the Specific Plan would implement traffic-related design elements collectively referred to as Transportation Demand Management measures would be implemented.

The Specific Plan area encourages the use of alternative transportation, and would establish an integrated system of pedestrian, bicycle, and trail routes throughout the Specific Plan area. The Specific Plan area would also provide for pedestrian access by incorporating walkways and paths that link on-site destinations. Sidewalks with decorative paving, medians, landscaping, and safety features would be incorporated into the site design to allow pedestrians to safely and easily move throughout the site. The Specific Plan would provide bicycle access to the site by incorporating bike lanes into the site access roads. Bicycle movement within the site would also serve to connect the on-site destinations to one another and encourage visitors to use alternative means of transportation. Within the Specific Plan area, bicycle parking areas would be provided to promote the use of bicycles as a viable and attractive alternative to automobile transit.

Although the Specific Plan area would slightly increase transportation energy use by situating VSC uses near major transportation corridors and key visitor draws such as the ocean, lagoons, LEGOLAND, and the Carlsbad "Village"; the Specific Plan's establishment of walkways, trails, and bicycle paths would encourage visitors to use alternative modes of transportation within and surrounding the Specific Plan area. Furthermore, over 85% of the entire Specific Plan area would be conserved open space lands and agricultural uses, as well as miles of nature trails, pedestrian walkways, and bikeways.

Overall, the Specific Plan would not contribute considerably to a cumulative effect to transportation energy use within the City.

### 5.3.19 Socioeconomic Effects

Characteristics and proposed opening dates of eight recently opened and proposed retail projects in the Trade Area were analyzed. To determine the likely impact of these additional projects on the retail demand at the Specific Plan location, the square footage of each of the proposed projects was multiplied by the expected capture rate based on the location in the primary market area (PMA) or secondary market area (SMA). As shown below in **Table 5-2**, proposed projects in the PMA are estimated to have a higher capture rate than those in the SMA. Further, 10% of the potential PMA and SMA demand is assumed to be accommodated outside the Trade Area.

**Table 5-2**
**PMA and SMA Sales Percentages per Retail Category**

| Retail Category | PMA | SMA |
|---|---|---|
| *Shopper Goods* | | |
| Shopper Goods | 70% | 20% |
| *Convenience Goods* | | |
| Food (Supermarkets/Liquor) | 80% | 10% |
| Eating and Drinking | 70% | 20% |

**Source:** Kosmont Companies 2015 (see **Appendix R**).

Multiplying the proposed product square footage by the expected capture rate allows for the evaluation of the proposed projects as if they were being built at the Specific Plan location. Based on the cumulative demand of the proposed Specific Plan and the additional proposed projects within the Trade Area, there remains a net surplus demand in each of the retail categories, including the Visitor-Serving Commercial component of the Specific Plan.

This EA evaluates the existing and projected demand for the various commercial/retail components within an approximately 25-minute drive of the Trade Area. These boundaries were established based on industry standard trade area metrics for projects similar in nature to the Specific Plan and Kosmont's experience with consumer commercial/retail shopping patterns, with consideration given to the specific conditions within the greater Carlsbad area. The existing and projected commercial/retail demand within the Trade Area was then compared to the actual volume of sales, thereby establishing a net commercial/retail demand. The net commercial/retail demand was then compared to the commercial/retail supply that would be created should the Specific Plan be developed.

Based on the analysis, it is unlikely the Specific Plan would have an adverse impact on the existing Shopper Goods, Food, or Eating and Drinking retail establishments within the Trade Area. The analysis in Appendix R estimates that should the Specific Plan be developed in conjunction with other currently planned retail projects in the area, the PMA would be underserved and maintain a net demand for additional retail square footage.

When net demand exists, market conditions are generally favorable for retail businesses; as a result, retailers will not be forced to close for reasons related to insufficient demand caused by the Specific Plan. Should existing businesses close, it would likely occur on an intermittent/site-specific basis, and primarily for reasons unique to those businesses. Further based on the data, as market conditions remain favorable based on the net demand for additional retail square footage, it is unlikely the Specific Plan would cause significant business closures and long-term vacancies that would cause property owners to cease maintaining their properties and leave decaying, unoccupied shells. The Specific Plan would not have cumulatively considerable socioeconomic effects.