

## **CHAPTER 4 ENVIRONMENTAL IMPACT ANALYSIS**

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This chapter of this Environmental Impact Report (EIR) describes the existing conditions, regulatory setting, impacts analysis, mitigation, and level of significance after mitigation for each environmental issue area. Where appropriate, the analysis discusses the impacts from the development of both on- and off-site components of the North River Farms Planned Development (PD) Plan (proposed project). The following issue areas are analyzed in this chapter:

- Aesthetics (Section 4.1)
- Agriculture and Forestry Resources (Section 4.2)
- Air Quality (Section 4.3)
- Biological Resources (Section 4.4)
- Cultural Resources (Section 4.5)
- Energy Consumption (Section 4.6)
- Geology and Soils (Section 4.7)
- Greenhouse Gas Emissions (Section 4.8)
- Hazards and Hazardous Materials (Section 4.9)
- Hydrology and Water Quality (Section 4.10)
- Land Use and Planning (Section 4.11)
- Mineral Resources (Section 4.12)
- Noise (Section 4.13)
- Population and Housing (Section 4.14)
- Public Services (Section 4.15)
- Recreation (Section 4.16)
- Traffic and Circulation (Section 4.17)
- Tribal Cultural Resources (Section 4.18)
- Utilities and Service Systems (Section 4.19)

### **4.1 AESTHETICS**

This section describes the existing aesthetic environment and visual resources of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed project.

#### **4.1.1 Existing Conditions**

##### **4.1.1.1 Visual Resource Concepts**

The discussion of existing conditions and impacts focuses on the visual resources, viewer groups, and views that could be potentially affected by construction and operation of the proposed project. Because the City of Oceanside (City) and the California Environmental Quality Act (CEQA) have no established guidelines for conducting visual resource inventories, the

methodology used is primarily based on the inventory and analysis process established by the Bureau of Land Management’s Visual Resource Management (VRM) System. While BLM has no jurisdiction over the proposed project, and the proposed project is not located on public land managed by the BLM, the VRM system provides a useful and recognized framework for inventory of existing visual resources and evaluation of proposed activities.

The visual resources inventory of the proposed project considered the existing visual character and quality of the landscape within the context of the regional setting and project viewshed (i.e., typically the project site and surrounding area). Viewer groups and key observation points (KOPs) within the project site are also identified and discussed. These concepts are described in detail below.

### **Visual Character**

Visual character is descriptive and non-evaluative, which means it is based on defined attributes that are neither positive nor negative in themselves. A change in visual character cannot be described as having positive or negative attributes until it is compared with the viewer response to that change. The descriptive attributes of a landscape (including natural and built features) contribute to the visual character of an area or view. Influenced by geologic, hydrologic, botanical, and recreational features, as well as by roads, structures, utilities, and other urban features, the perception of visual character can vary according to season and time of day, as the elements that comprise the viewshed (e.g., weather, light, and shadow) fluctuate over time and work to either obscure or highlight particular features. The fundamental pattern elements used to describe visual character are form (bulk, mass, size, and shape), line, color, and texture, and the appearance of a landscape is often described according to the dominance of these elements.

### **Visual Quality**

Visual quality is evaluated according to the vividness, intactness, and unity present in the viewshed. This approach to evaluating visual quality can help identify specific methods for mitigating specific adverse impacts that may occur as a result of a project. These criteria are defined as follows:

- **Vividness** is the visual power or memorability of landscape components as they combine in distinctive visual patterns.
- **Intactness** is the visual integrity of the natural and built landscape and its freedom from encroaching elements. Intactness can be present in developed urban and rural landscapes, as well as in natural settings.
- **Unity** is the visual coherence and compositional harmony of the landscape considered as a whole. Unity frequently attests to the careful design of individual built components in the landscape.

High-quality views are highly vivid, mostly intact, highly coherent, and exhibit visual continuity, and low-quality views are not particularly memorable and contain numerous contrasting and encroaching elements that contribute to weak visual unity.

### **Viewshed**

A “viewshed” is an analytical tool to aid in identification of views that could be affected by a potential project. The viewshed is defined as the surrounding geographic area from which a project’s on-site elements are likely to be seen and is mostly delineated based on topography.

A project’s viewshed is composed of all surface areas from which views of project components would be visible. The viewshed also includes the location of viewers likely to be affected by visual changes associated with a project and is largely determined by surrounding terrain and development.

The viewshed is the area visible from an observer’s viewpoint, including the screening effects of intermediate vegetation and structures. The most comprehensive viewsheds generally are from scenic viewpoints, singular vantage points that offer an unobstructed view of expansive visible landscape components. Its components include underlying landform (topography, e.g., foothills, mountains, flatlands) and the overlaying land cover (e.g., water features, vegetation, cultural sites, and buildings).

### **Viewer Groups**

Viewer groups consist of individuals that frequent public viewpoints in the project site. For each viewer group, anticipated response to visual change is described and based on viewer sensitivity and viewer exposure. These elements combine to form a method of predicting how the viewers might react to visual changes brought about by a project.

Viewer sensitivity is described in qualitative terms of high, medium, or low and is based on user volume and attitudes toward changes to the visual environment. Factors considered include the number and types of viewers potentially affected, viewing distance, public concern about visual change, and special status or designation of roadways or recreational areas. Viewer exposure varies depending on the angle of view, relationship to sun angle (backlighting versus front or side lighting), view distance (foreground, middleground, and background), spatial relationships (i.e., whether views are panoramic or limited by vegetation, topography, or other land uses), screening conditions, duration of views, and speed of travel.

## **Key Observation Points**

Key observation points (KOPs) are representative vantage points in the project site that illustrate conditions from which the proposed project will be viewed by the various viewer groups identified in the existing conditions discussion.

### **4.1.1.2 Methodology**

#### **Desktop Study and Investigation**

Viewer groups and potential viewing locations were initially identified during a desktop study of the project site. Photographs directed towards the project site were taken from public viewing areas for candidate KOPs that offered representative views of the project site to identified viewer groups in the area.

#### **Key Observation Points and Visual Simulations**

Factors considered in the selection of KOPs used in visual simulations included proximity to the project site, angle of observation, volume of viewer, viewer sensitivity, and length of time the proposed project is in view. KOPs were selected by the applicant in collaboration with City staff.

Photographic simulations that depict the proposed project and potential visual change to the landscape were created from the KOPs. The simulations are used to illustrate the level of contrast associated with implementation of the proposed project and to determine the significance of anticipated change in the visual landscape. The simulations include existing site photographs as background images and true-scale 3-D models for the proposed project rendered onto the existing photographs. Where applicable, visual simulations are referred in the CEQA impacts analysis as it relates to scenic vistas, scenic highways, and existing visual character or quality.

#### **Scenic Vistas**

For purposes of this analysis, scenic vistas are locations that provide opportunities for particularly long and broad views of the surrounding landscape. Scenic vistas can be mapped and/or designated in a local or regional planning document such as General Plans but also may be less formally recognized. For example, scenic vistas may consist of a valued view from a public road or recreational area/facility to scenic features in the surrounding area. Project impacts to scenic vistas are determined based on the severity of obstruction, interruption, or detraction on existing views associated with project activities or features. Anticipated change to existing views and impacts are described qualitatively.

## Scenic Highways

State scenic highways are segments of interstates and highways included in the California Scenic Highway Program. The state program recognizes areas of outstanding natural beauty and is intended to “preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways.” The state program includes both eligible and officially designated state scenic highways. Unless otherwise noted, the state scenic highway impact analysis only considers officially designated state scenic highways. Impact determinations on local or regional scenic highways are not provided unless the roads are also included in the California State Scenic Highway System. Project impacts to state scenic highways are determined based on the degree of visible contrast and severity of anticipated damage to existing scenic resources in the highway viewshed associated with project activities and features.

### Existing Visual Character or Quality

Impacts to existing visual character or quality are described in terms of visual contrast. The impact analysis involves comparing project features (i.e., landform, vegetation, and structures) to existing landscape features using the basic design elements of form, line, color, and texture. The features of the proposed project are described then, at each KOP location, visual change is assessed. The anticipated degree of contrast (i.e., none, weak, moderate, and strong) is disclosed and is based on the following criteria:

- **None:** The element contrast is not visible or perceived.
- **Weak:** The element contrast can be seen but does not attract attention.
- **Moderate:** The element contrast begins to attract attention and begins to dominate the characteristic landscape.
- **Strong:** The element contrast demands attention, will not be overlooked, and is dominant in the landscape.

Factors considered in determining degree of contrast include distance, angle of observation, view exposure, relative size or scale, and spatial relationships. KOP locations and visual simulations are used as a tool for the impact analysis. Significance determinations are not made on an individual KOP location level. Rather, the level of contrast anticipated at each KOP is weighed and informs the overall impact associated with operation of the proposed project.

### Light and Glare

Impacts to existing night and daytime views due to light and glare are described through a comparison of existing and proposed conditions. Proposed lighting and potentially reflective building materials associated with the proposed project are described. In addition to existing

regulations concerning light and glare, elements of the proposed project such as inclusion of hooded and/or downward directed lighting are considered in determining the anticipated level of contrast associated with project source of light and glare.

### **4.1.1.3 Existing Visual Resources and Environment**

#### **Scenic Highways**

According to Caltrans’s California Scenic Highway Mapping System, the project site is not located adjacent to or in the vicinity of a designated state scenic highway (Caltrans 2017). Portions of Interstate 15 (I-15) from approximately State Route 76 (SR-76) north to SR-91 near Corona, California, is considered to be eligible for state scenic highway designation (Caltrans 2017). The project site is located over 8 miles from the southern point of this eligible state scenic highway.

#### **Scenic Vista**

A scenic vista is typically defined as a panoramic view or vista from an identified view/vista point, public roads, public trails, public recreational areas, or scenic highways.<sup>1</sup> The City’s General Plan does not identify any designated view or vista points in which the project site would be visible. Nonetheless, relatively low elevation of the project site compared to surrounding topography creates opportunities in which the project site would be visible from surrounding higher elevations. Specifically, the proposed project site is located near the San Luis Rey River, a visual resource identified within the City’s General Plan and location within the Guajome Regional Park sphere of influence (see Section 4.1.2). These resources contribute to the scenic quality of the area. The portion of the San Luis Rey River and Guajome Regional Park in the vicinity of the project site is currently surrounded by existing residential development, which includes both rural residential development and higher-density subdivisions, as well as agricultural land uses. These existing land uses can influence the scenic quality.

#### **Visual Character**

The following is a description of the existing visual characteristics and quality of the project site and surroundings. As discussed in Section 4.1.1.2, KOPs with visual simulations are used in the analysis to aid in visual analysis; the discussion of the existing conditions in the chosen KOPs is described below.

#### ***Project Site***

The project site is currently used by West Coast Tomato Growers as agricultural land to cultivate tomatoes. Several vacant, dilapidated single-family structures are located in the northern and central portions of the project site. Additional structures include a single-family residence

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<sup>1</sup> Potential scenic views from private properties are not under consideration in this analysis.

converted into an office building, storage structures, a transfer facility, equipment maintenance area, and a water filtration facility with an approximately 265,000-gallon aboveground water tank with associated plastic-lined basins. A network of unimproved roads and an irrigation system also extend throughout the project site.

Visually, the project site is heavily influenced by the existing farm plots that cover the majority of the site. These plots are a mix of vegetative greens or soils and are broken by light-tan dirt roads, which are interspersed throughout the project site. From many of the surrounding roadways and other public vantage points, the project site appears to be heavily lined with row crops, creating drastic straight lines on a gently rolling slope towards the San Luis Rey River.

With the exception of the maintained farm plots, the project site exhibits an overall dilapidated and unkempt appearance contributing to a lack in visual quality. N. River Road through the project site is lined with an inconsistent mix of ornamental landscaping, often overgrown and lacking maintenance. The existing structures near the center of the project site appear abandoned, with boarded windows and perimeter wrapping. The run-down white facades, partially damaged dark brown rooftops, plastic covers, and surrounding tall and unmaintained dense trees starkly contrast the otherwise low lying farm plots. Similarly, the existing structures on the north portions of the project site present a jumbled appearance from the long, curved, white row crop covers, visible plastic lined basins, a variable mix of white and earth-tone structures, with tall, mature trees generally protruding above the existing structures.

### ***Surroundings***

To the west of project site is a mix of uses including churches, an elementary school, parks, and a mix of residential uses and older established residential subdivisions. To the east of the project site is South Morro Hills, a rural agricultural community with a substantial amount of production agricultural land. Beyond existing agriculture lies the San Luis Rey River to the south, and a public golf course and residential uses border the project site to the north. The project site is located within the Morro Hills Neighborhood Area and lies on the border between the more developed areas to the west and the agricultural/semi-rural/rural lands of South Morro Hills and beyond.

West and south (beyond San Luis Rey River) of the project site is much more highly developed than to the north and east. West of the project site is visually and consistently more suburban. It is characterized by wide multilane roadways with improved sidewalks and concrete partially landscaped medians as well as two-story, earth tone single and multifamily residential development. Generally, the roadways are heavily lined with existing, tall, mature, and densely green ornamental landscaping to provide visual relief and screening of the brown and tan structures and perimeter walls associated with the residential development.

East and north of the project site is heavily characterized by existing agricultural fields and multi-acre agricultural properties developed with single-family homes. Existing roadways are smaller with unimproved shoulders and are typically lined with property fencing, utility poles, dirt driveways, and a varying mix of screening vegetation that appear in inconsistent locations, depending on the surrounding property. Visually, this area appears very open with visibility of the rolling landscape afforded throughout the area with pockets of structures protruding above the ground. Generally, the environment is more heavily vegetated with large expanses of farm plots, dense portions of vegetation of the visible scrub and riparian San Luis Rey River, and ornamental landscaping.

To the south, the San Luis Rey River and Guajome Regional Park provide substantial visual relief from the surrounding development by providing scenic open space. Portions of the San Luis Rey River are densely vegetative, especially travelling east. The existing dense green and brown scrub and riparian plants within the river corridor often provide visual screening of existing development to the south when viewed from N. River Road.

### ***Key Observation Points***

#### **Key Observation Point 1 – Wilshire Road**

KOP 1, as shown on Figure 4.1-1, is located along Wilshire Road at the northeastern corner of the project site with the viewer oriented south–southwest. Potential viewers at KOP 1 would generally include motorists travelling south on Wilshire Road. Based on the location and surrounding land uses, as well as the eventual terminus of Wilshire Road to the north, these motorists would likely be residents or farm workers associated with the properties to the north. While these viewers would likely be lower in volume when compared to other highly trafficked roadways, they would exhibit high sensitivity to change in the visual environment as they experience this view daily.

From KOP 1, views of the project site are limited to the northeastern boundary and existing mature trees and structures that protrude above the visible ground level of the unimproved shoulder. Viewers' eyes would be drawn to the distant rolling hills to the south. From this KOP, specific existing structures south of the San Luis Rey River fade with distance. The dense green vegetation of the San Luis Rey River and the edges of Guajome Regional Park are visible just beyond the pavement of Wilshire Road, while further south affords views of developed hills exhibiting a mix of the lighter toned built environment and vegetation associated with the open space between subdivisions and other development. Distant and panoramic views towards the south and west are interrupted by the existing trees within the project site, as well as the vertical utility poles that contrast the otherwise horizontal nature of the distant views.

With the exception of the distant views to the south afforded at this KOP, the visual environment lacks distinct or memorable visual components (vividness). The foreground and middle-ground views of Wilshire Road, the project site, and eastern property exhibit visual character associated with agricultural lands and semi-rural development. The unimproved shoulder, chain-link fencing, aboveground utility lines, and agricultural structures contribute to a visual coherence (unity and intactness) a viewer would expect of the Morro Hills area because it is consistent with much of the surrounding agricultural lands.

#### Key Observation Point 2 – N. River Road West

KOP 2, as shown on Figure 4.1-2, is located on N. River Road at the western entrance of the project site. The view is oriented looking east towards the project site. Potential viewers at KOP 2 would be motorists and bicyclists. It is unlikely that pedestrians would be located at KOP 2 because the existing sidewalk terminates approximately 500 feet west of the project site, and there is no other easterly pedestrian connection through the project site. Similar to KOP 1, potential viewers are likely residents or farm workers associated with the lands to the north and east of the project site. However, N. River Road provides for an easterly connection to SR-76 and pass through trips could be expected, increasing potential viewer volume. Similar to the viewers in KOP 1, potential viewers of KOP 2 would likely exhibit a high sensitivity to change in the visual environment. With a posted 50 mph speed limit, motorists would only have views of the project site for a very brief time.

From KOP 2, wide and expansive views are briefly afforded, prior to continuing east on N. River Road. The viewer is drawn to the distant ridgelines of the San Marcos Mountains in the background that sit atop a densely green and brown vegetated middle ground associated with the San Luis Rey River. Aboveground utility lines, and existing dense, and unmaintained landscaping punctuate and interrupt the distant views of the mountains. Light tan and brown dirt and dried vegetation line substantial portions of the roadways, and are immediately visible in the foreground. A white lined fence appears in the foreground view and contrasts with the surrounding muted browns and greens of the agricultural lands and the San Luis Rey River, which is a common visual occurrence throughout the project site.

With the exception of the distant views of the eastern mountains, the visual environment as viewed from KOP 2 lacks distinct or memorable visual components. This view also lacks overall unity and intactness resulting from the encroaching man made components (fencing and utility poles) and contrasts with the appearance to the north and the openness to the south.

#### Key Observation Point 3 – N. River Road and Wilshire Road

KOP 3, as shown on Figure 4.1-3, is located at the easterly entrance to the project site at the intersection of N. River Road and Wilshire Road. The view is oriented looking west towards the

project site. Potential viewers would be similar to those described for KOPs 1 and 2. However, travelers along N. River Road at this location may experience slightly longer exposures to this view as they approach the intersection of Wilshire Road, due to slowing for turns.

Views from KOP 3 lack distinct or highly memorable views. The visual environment at this location is highly influenced by the existing vertical features that are a combination of utility poles, street signs, and mature trees that shoot upward from a generally flat middle-ground landscape. These vertical elements appear at varying distances from the viewer. Decorative signage and rocks appear near the middle of the intersection. However, visually the signage does not appear to contribute to any existing theme in the surrounding area. The landscaping that lines the roadways appear to be a mix of seasonal grasses and ornamental landscaping providing a varying degree of species. The white color of the structures from the project site are visible in the middle ground of this view.

Despite the lack of vividness or intactness, the visual character of this view is similar to that of KOP 1. The imagery afforded from this location is visually consistent with that of agricultural and semi-rural lands.

#### Key Observation Point 4 – Chincoteague Court

KOP 4, as shown in Figure 4.1-4, is at the cul-de-sac of Chincoteague Court, southeast of the project site, across the San Luis Rey River. The view is oriented west towards the project site. Potential viewers from this KOP would be limited in volume as it is an internal street terminus of a residential subdivision. However, this KOP was chosen as a representation of potential views towards the project site from the areas south of the San Luis Rey River.

Views from KOP 4 are wide and expansive with minimal intervening elements. The foreground and middle-ground views are that of green and brown open space and dense vegetation of the San Luis Rey River. Due to the lack of substantial elevation differences, much of the development located on the project site and beyond to the west are screened by the existing vegetation. Pockets of lighter building facades break through and contrast with the dark browns of the vegetated and undeveloped hillsides of Camp Pendleton that are visible in the distant background. Despite the presence of several tall vertical trees in the middle ground, the treetops generally align with the overall horizontal appearance of the skyline, hillsides, and river. The project site is not readily discernable amongst the vegetation, but portions of the structures and farm plots are visible from KOP 4.

Much of this view is uniform and intact with respect to the open space and vegetation of the San Luis Rey River. A distinct line and form pans across the middle of the view providing a sense of visual identity and coherence of the San Luis Rey River bed. The rolling hillsides with pockets of visible structures are also generally uniform across the entire horizon, creating a uniform and memorable appearance.

### Key Observation Point 5 – Raspberry Way Park

KOP 5, as shown on Figure 4.1-5, is at a park located off of Raspberry Way, southeast of the project site, across the San Luis Rey River. The view is oriented northwest toward the project site. Potential viewers from this KOP would be limited in volume because is an internal park within a residential subdivision. However, like KOP 4, this KOP was chosen as a representation of potential views towards the project site from the areas south of the San Luis Rey River.

Views from KOP 5 are wide and expansive but interrupted by numerous trees in the foreground. The foreground and middle-ground views are that of existing mature trees, along with the green and brown open space and dense vegetation of the San Luis Rey River. Due to the lack of substantial elevation differences, much of the development located on the project site and beyond to the west are screened by the existing vegetation. Pockets of lighter building facades break through and contrast with the dark browns of the vegetated and undeveloped hillsides of Camp Pendleton that are visible in the distant background. Despite the intervening tall vertical trees in the foreground there is an overall horizontal appearance of the skyline, hillsides, and river. The majority of the project site is not readily discernible amongst the vegetation, but portions of the structures and farm plots are visible from KOP 5. The existing agricultural fields on the northern portion of the project site are visible from this KOP due to their higher elevation relative to the south.

With the exception of the intervening trees in the foreground, much of this view is uniform, vivid, and intact with respect to the open space and vegetation of the San Luis Rey River and distant background hillsides. The San Luis Rey River provides a visual buffer between the viewer and the existing development to the northwest.

### **Light and Glare**

Currently, the project site does not contain substantial sources of light or glare. Existing sources of lighting within the project site are generally associated with N. River Road and areas surrounding the existing buildings for nighttime and security purposes. However, because several of the existing structures on-site are vacant, they are no longer acting as sources for nighttime lighting. Additionally, the project site does not contain any large reflective surfaces, such as glass paneling, that would act as a substantial source for glare.

Most of the surrounding area to the north, east, and immediate south exhibit similar light and glare conditions as the project site. To the south, beyond the existing agriculture, lies the San Luis Rey River, which presents no sources of light or glare. To the north and east lie existing rural residential and agricultural lands, with sporadic sources of lighting, primarily associated with roadways and agricultural structures. Large amounts of agricultural and open space lands contribute to a nighttime condition with minimal lighting intrusions. No sources of substantial glare is present in the area.

Immediately to the west is Melba Bishop Recreation Center with several sport fields and courts with existing lighting. Field and court lighting is visible from areas surrounding the recreation center; however, such lighting is only active when the outdoor areas are in use. Further west are commercial and residential areas and generally more urbanization compared to the land uses to the northeast of the project site. Highly developed areas tend to contain substantial amounts of nighttime lighting from commercial signage, street lighting, parking lots, and security lighting. No sources of substantial glare is present in the area.

### **4.1.2 Regulatory Setting**

#### **State**

##### ***California Scenic Highway Program***

The California State Legislature created the California Scenic Highway Program in 1963 with the intent “to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment.” The state laws that govern the Scenic Highway Program are Sections 260 through 263 of the Streets and Highways Code. A highway may be designated scenic based on the natural landscape visible by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the views of the highway. The Scenic Highway Program includes both officially designated scenic highways and highways that are eligible for designation. A highway may be designated as scenic based on aesthetic quality of viewable landscape, extent of views upon the natural landscape, and the degree to which development impedes these views. It is the responsibility of local jurisdictions to apply for scenic highway approval, which requires the adoption of a Corridor Protection Program (Caltrans 2011). There are no state-designated scenic highways on the project site.

#### **Local**

##### ***City of Oceanside General Plan***

The Environmental Resource Management Element of the City’s General Plan is a program designed to conserve the City’s natural resources including recreation and scenic areas. With regard to scenic areas, the element encourages the preservation of significant visual open spaces when such preservation is in the best interest of the public health, safety, and welfare. In addition, the Environmental Resource Management Element includes an inventory of present open space and scenic areas; this inventory identifies the San Luis Rey River as visual open space.

The Land Use Element of the City’s General Plan provides broader guidance for the treatment of scenic areas in the City. The Land Use Element includes the following:

- **3.21 Scenic Open Areas, Policy A:** The City shall encourage the preservation of significant visual open areas.

- **1.13 Neighborhood Character, Policy 1:** Coordinated monuments and/or entrance landscaping shall be developed at major entrance points to each neighborhood area, wherever possible

The project site is located in the Guajome Regional Park sphere of influence, which is defined in Figure LU-15 of the Land Use Element. According to Figure LU-15 of the Land Use Element, the portions of the project site south of N. River Road are within the Guajome Regional Park sphere of influence and management area (City of Oceanside 2002). The Land Use Element identifies policies to ensure that development within the sphere of influence is compatible with its recreational and scenic areas. Specifically, the Land Use Element states the following:

- **1.37 Guajome Regional Park Sphere of Influence, Objective:** To protect the valuable natural and cultural resources of Guajome Regional Park by insuring that future development in areas adjacent to or visible from Guajome Regional Park will be compatible with its recreation and scenic areas.

#### *City of Oceanside Zoning Ordinance*

The project site is currently zoned Agricultural (A) with a Scenic Park (SP) overlay on the southern side of N. River Road. The Scenic Park (SP) overlay includes development regulations that conserve and protect valuable natural resources of recreational and scenic areas in and adjacent to the Guajome Regional Park and other public parks; encourage the retention of natural slopes and waterways and minimize grading and alteration of drainage patterns; achieve a visually pleasing and compatible relationship between buildings and structures, parking areas, walkways and planting areas, and the natural environment; and provide appropriate standards and criteria for reviewing proposals for new construction, exterior additions and alterations, relocation of buildings, and other development (City of Oceanside 1992).

#### *City of Oceanside Municipal Code – Chapter 39 Light Pollution Regulations*

Chapter 39 of the City’s Municipal Code restricts the permitted use of certain light fixtures that emit undesirable light rays into the night sky. This section of the municipal code regulates the usage of lighting intended for general illumination (Class II lighting) and the usage of decorative lighting including building facade and landscape lighting (Class III lighting). For general illumination of parking lots, roadways, and security, low-pressure sodium lights are permitted, as are other lights of 4050 lumens or less (similar lamp types are permitted for Class III (decorative) lighting). For all use types, permitted lighting would be fully shielded where feasible, partially shielded in all other cases, and would be focused to minimize light that would affect the night sky. Lastly, as stated in Section 39.8(c), all Class II lighting may remain illuminated all night and pursuant to Section 39.8(d), all Class III lighting shall be off between 11:00 p.m. and sunrise.

### 4.1.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to aesthetics are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to aesthetics would occur if the proposed project would:

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

### 4.1.4 Impacts Analysis

#### *Would the project have a substantial adverse effect on a scenic vista?*

Construction of the proposed project would affect the visual environment through excavation, grading, and on-site storage of equipment and materials. While views from a scenic vista may be altered, construction would be temporary. Temporary visual impacts would include views of large construction vehicles and earth moving equipment, storage areas, and any potential temporary signage. Construction would occur during daytime hours and potential for lighting would be minimal. Grading of the project site, resulting in the introduction of expansive and light tan colored graded pads and the removal of green agricultural vegetation and existing structure, would introduce contrasting features to the project site. However, the presence of these items within any scenic view would not be permanent because construction equipment would vacate the project site upon completion of the proposed project. Therefore, construction impacts related to scenic vistas would be less than significant. As such, the following discussion focuses on the potential for permanent visual impacts to scenic vistas resulting from project buildout.

The project site is currently zoned Agricultural (A) with a Scenic Park (SP) overlay on the south side of N. River Road. The proposed project includes a Zoning Ordinance Amendment to change the existing zoning to Planned Development (PD). With the future approval and adoption of the rezone from A and A (SP) to PD, the proposed project would not conflict with applicable land use plans or ordinances, as it relates to scenic resources (refer to Section 4.1.1, Land Use and Planning). Nevertheless, the proposed project is located near the San Luis Rey River, a visual resource identified within the City's General Plan and located within the Guajome Regional Park sphere of influence. The proposed project could affect views towards the San Luis Rey River and Guajome Regional Park. As described in Section 4.1.1.3, there are no designated view or vista points identified by the City's General Plan or other land use plan that would have views of the project site.

The proposed project site's low elevation relative to surrounding topography creates opportunities in which the project site would be visible from surrounding higher elevations. Due to the lack of substantial elevation gain, the project site generally is not visible from the trails and recreational areas of Guajome Regional Park, such that panoramic vistas are afforded. The gently rolling topography, intervening existing mature vegetation, and surrounding development screen views of the project site from the park. The project site is approximately 0.4 miles north of Guajome Regional Park, separated by existing agricultural lands, the San Luis Rey River and associated dense riparian vegetation, existing residential development, and SR-76; the proposed agricultural lands in the southern portions of the project site would create additional visual buffer between proposed structures and the open space areas to the south of the project site. Given the extent of development surrounding Guajome Regional Park and the San Luis Rey River, the proposed project would not adversely affect its scenic value, consistent with the General Plan Land Use Element objectives and policies regarding the Guajome Regional Park sphere of influence (see Section 4.1.2). Therefore, the proposed project would not conflict with the City's General Plan objective of insuring compatibility of future development in areas adjacent to or visible from Guajome Regional Park.

The area of Morro Hills to the north and northeast of the project site is at a higher elevation than the project site; generally, the elevation gain traveling north from the project site is gradual and lacks sudden increases in elevation that would contribute to ridgelines or prominent peaks. Due to the gradual changes and fluctuations in elevation and intervening structures and vegetation lining roadways, public panoramic views towards the project site, including views that also contain the San Luis Rey River, are not readily afforded. However, it is possible that travelers along public roadways, particularly to the north and east, may be afforded panoramic views that include some or all of the project site and the surrounding visual resources. Such portions of roadways could include segments of Sleeping Indian Road in the vicinity of Morro Hill, segments of Wilshire Road at higher elevations north of the project site, and segments of SR-76 traveling west when adjacent to the San Luis Rey River in the vicinity of the intersection of E. Vista Way. Motorists that are daily commuters and residents of the area would exhibit a high sensitivity to change in the visual environment. In all cases, motorists travelling along these roadways would experience brief views towards the project site as varying speeds, with those generally travelling faster on SR-76 compared to Sleeping Indian Road. Additionally, at distance, the proposed project would blend with the surrounding residential development to the west and south across the San Luis Rey River, as well as the existing highly developed lands of the greater Oceanside and Vista areas. Therefore, the proposed project would not adversely affect scenic or panoramic views towards the project site.

The proposed project also may affect scenic views or vistas from public areas away from the project site. As shown on Figure 4.1-2, and discussed in Section 4.1.1.3, viewers (pedestrians, bicyclists, motorists) traveling east along N. River Road are currently afforded views of the

distant San Marcos Mountains. Additionally, views of these distant mountains are brief for most motorists (the speed limit along this segment is 50 miles per hour) and longer for bicyclists. Current pedestrian access along N. River Road ends approximately 550 feet west of the project site. Existing mature vegetation and structures line most of N. River Road through the project site and beyond, further obstructing potential views towards the mountains. Because, the City has not designated any portion of N. River Road as a scenic corridor or as a scenic vista, and because current views are brief and partial obstructed, the proposed project would not adversely affect scenic or panoramic views away from the project site. Impacts would be less than significant.

***Would the project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?***

As described in Section 4.1.1.3, there are no state-designated scenic highways adjacent to, or in the vicinity of, the project site. While not officially designated at the time of preparation of this EIR, portions of I-15 from approximately SR-76 north to SR-91 is considered to be eligible for state scenic highway designation (Caltrans 2017). The project site is located over 8 miles from the southern point of this eligible state scenic highway, with intervening topography. Therefore, the proposed project would not substantially damage scenic resources within a state scenic highway, and no impact would occur.

***Would the project substantially degrade the existing visual character or quality of the site and its surroundings?***

As described in previous responses, any aesthetic impacts resulting from construction of the proposed project are temporary in nature. As such, the following discussion on visual character focuses on potential permanent impacts resulting from project buildout.

In support of this analysis, visual simulations of project buildout were created for each KOP described in Section 4.1.1.3 and shown on Figures 4.1-1 through 4.1-5. These simulations are designed to be representative of the proposed project based on the proposed site plans and development guidelines found in the proposed PD Plan. However, as described in Chapter 3, Project Description, the proposed project buildout ultimately would be determined by future development plans prepared in compliance with the standards and guidelines of the proposed PD Plan. Additionally, these visual simulations render proposed landscaping at maturity, and may not be representative of initial plantings.

The existing visual environment is described in Section 4.1.1.3. The visual character analysis presented below focuses on contrast with the existing conditions, as described in Section 4.1.1.2. There is no hardline threshold in which a visual impact is considered significant. Per Appendix G of the CEQA Guidelines, the potential for impact considers whether the proposed project substantially degrades the existing visual character or quality of the site. The occurrence of visual change is not, in and of itself, an impact on the visual environment.

Views of the project site from its immediate surroundings would result in a stark contrast compared to the existing and proposed condition. As shown for KOPs 1, 2, and 3 (Figures 4.1-1 through 4.1-3), proposed structures would be readily apparent where low-lying agricultural lands existed before. While much of the proposed project would be substantially set back from the roadways to reduce apparent scale and massing, viewers of the site from KOPs 1 to 3 would not be afforded visual relief and screening until the proposed trees and shrubberies mature. After construction, motorists traveling along N. River Road and Wilshire Road would have direct and unobstructed views of new residential and commercial development. While the contrast would be strong, the proposed project would also provide for improvements to the visual environment. Aboveground utility poles would be undergrounded and would no longer interrupt views. Public right of way improvements to N. River Road and Wilshire Road include an improved shoulder and substantial landscaping (particularly upon maturation) adjacent to the roadways would enhance the overall visual quality of the project site and its borders with adjacent areas.

The views from KOPs 4 and 5 represents potential visual changes resulting from the proposed project when viewed at distance from the southeast. As described previously, the project site is not readily discernable from KOP 4, but portions are more visible from KOP 5. The inclusion of the proposed development would be visible as contrasting lighter toned structures would be visible in relation to the surrounding dark browns and greens from the existing vegetation and distant hillsides. However, existing development west of the project site is currently visible as pockets of light boxy structures. The proposed project would continue this visual trend by introducing an amalgamation of lighter, earth toned structures. At distance, the viewer is not likely to detect the differences between individual structures. The proposed condition represents a moderate contrast from the existing condition. Views from these KOPs provide a representative view of the likely visual change resulting from the proposed project when viewed at greater distances. The proposed development would represent a noticeable change from the existing condition; however, structures would blend with the surrounding existing development.

The proposed project would establish a PD Plan for the project site. As presented in Section 1701 of the Zoning Ordinance, the specific purposes of the PD district are as follows:

- Establish a procedure for the development of parcels of land in order to reduce or eliminate the rigidity, delays, and inequities that otherwise would result from application of zoning standards and procedures designed primarily for small parcels
- Ensure orderly and thorough planning and review procedures that would result in quality urban design
- Encourage variety and avoid monotony in large developments by allowing greater freedom in selecting the means to provide access, light, open space, and amenity

- Encourage allocation and improvement of common open space in residential areas, and provide for maintenance of the open space at the expense of those who will directly benefit from it

As such, a properly prepared PD Plan for an area zoned for the PD district would encourage visual coherence and quality throughout the site.

The guiding principles of the PD Plan involve incorporation of an agricultural identity throughout the areas of the proposed project. This is reflected in the proposed architectural guidelines, development standards, and overall site planning. The PD Plan provides for conceptual landscaping, community entries, and architectural styles informed by the surrounding area and agricultural character. Residential architectural styles would include farmhouse-, cottage-, bungalow-, and craftsman-inspired structures composed of wood-paneled facades, pitched rooflines, vertical windows, shingled roofs, and brick accents. The community buildings located within the Village Core would be much more visible from public roadways. The PD Plan provides these structures, including the farmers market, maker spaces, hotel, education center, and other future commercial spaces, with development standards intended to create visual continuity in scale, height, and massing, while allowing for visual interest through use of different setbacks, facades, roof pitches, and exterior finishes. The structures in the Village Core would be influenced by agrarian architectural styles that include A-frame elements, steel accents, horizontal form, and use of awnings and trellises. The proposed project contains community landscaping guidelines and a proposed plant palette composed of native plantings suited for the area. The project site roadways would be planted with trees and shrubbery intended to provide screening and visual relief upon maturation.

The proposed site plan provides for a transition in the visual environment with consideration of surrounding land uses by placing the concentration of development near center of the site. The Hilltop Village, which is located in the northernmost portion of the site, would include large lot single-family detached homes set back from the project site boundary by a landscaped buffer and would avoid substantial massing or bulk along Wilshire Road near surrounding agricultural and multi-acre properties. Density would increase moving south and west from the Hilltop Village, reflecting the existing developed areas to the west of the project site. Similarly, while the more dense development would be located south of N. River Road closer to the San Luis Rey River, proposed agricultural lands along the southern project boundary and south of the project site provide for a visual buffer and setback. The vegetated buffers surrounding the project site and along N. River Road would increase the setback of development from the roadway, which would reduce apparently bulk and massing of the proposed structures.

As described previously and supported by the visual simulations shown on Figures 4.1-1 and 4.1-4, the proposed project would result in a strong change in the visual environment. This would occur through the proposed conversion of existing agricultural lands and associated existing structures to a planned residential, mixed-use, and agricultural community. However, it is the intent of the PD Plan and its development guidelines contained therein, to encourage visual coherence and quality, influenced by the

local agricultural lands. Additionally, much of the existing site lacks visual quality due to the existing abandoned structures and absence of maintenance on portions of the site. The proposed project includes multiple elements described above that would provide for visual enhancement of the site. Therefore, while the proposed project would result in a strong visual contrast from the existing environment, it would not be considered to substantially degrade the visual character of the site or the surroundings. Impacts would be less than significant.

***Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?***

### **Lighting**

The proposed project would introduce new sources of lighting to the project site. Section 3.3.3.3 of the Chapter 3 describes the proposed lighting outlined in the PD Plan, which includes the following:

***Outdoor Site Lighting*** – Outdoor site lighting fixtures would be bi-level LED. Ornamental, pedestrian-scale pole lights are proposed for local street lighting, with optics and shields that direct the light to the ground. Pole lights in neighborhoods would not exceed 20 feet in height to maintain a pedestrian scale. Streetlights would be equipped with cut-off shields to minimize visibility from adjacent areas. Any sport court lighting would be planned to minimize illumination of neighboring uses and residential areas, as well as avoid direct view of light sources. Parking lot lights would be no higher than necessary to provide efficient lighting of the area and would not exceed 28 feet, including the base.

***Landscape Lighting*** – Landscape lighting would be limited to important landscape areas, entry and sign features, public parks, or pedestrian use areas. Light fixtures would be hidden from direct view and the light source would be shielded from view at night.

***Building Mounted Lighting*** – Building mounted fixtures would be used as long as the fixtures are scaled appropriately for their location on the building and the light source is completely shielded from view.

***Park and Trail Lighting*** – Lights in parks and service areas would be designed to avoid spillover onto adjacent use areas, and to shield the direct view of the light source. Low-pressure sodium or other light types that contrast excessively with the normal use areas lighting would be prohibited. Off-street trail systems and pedestrian shortcuts would use low-level lighting sources such as lighted bollards.

The lighting guidelines presented in the PD Plan are intended to meet the requirements of Chapter 39, Light Pollution Regulations, of the City’s Municipal Code. Chapter 39 of the City’s Municipal Code is intended to minimize and restrict nighttime light pollution through identification of preferred lamp types, shielding requirements per lamp types, and permitted hours of operation. As described in Section 4.1.1.3, the project site and much of the surrounding agricultural and open

space areas do not currently have substantial sources of nighttime lighting, while the more urbanized area to the west of the project site contains numerous lighting sources. While the proposed project would introduce new sources of lighting to the project site, light spillover into adjacent properties would be restricted to the extent feasible through compliance with Chapter 39 of the City's Municipal Code. Additionally, sky glow, a common aspect of light pollution, would be minimized to the extent feasible through the use of downward facing and shielded light fixtures and appropriately chosen lighting sources for the intended use such that excess lighting is avoided. Therefore, the proposed project would not introduce a substantial new source of lighting that would adversely affect day or nighttime views. Impacts would be less than significant.

### **Glare**

The use of reflective building materials and finishes, as well as reflective lighting structures and metallic surfaced would be minimized to the extent feasible to impede the creation of project-generated glare. The proposed residential structures would have facades incorporating windows for internal lighting and visual articulation; such structures would not create a new source of substantial glare. According to the PD Plan, proposed commercial and community buildings (including the maker spaces, farmers market, and education center) would be designed to be street oriented with prominent entryways and windows to promote pedestrian activity. While larger windows may be used within the Village Core, none of the proposed structures would have large, uninterrupted expanses of reflective glazing or glass. The majority of proposed exterior finishes would consist of non-reflective materials such as wood. Therefore, the proposed project would not create a new source of substantial glare that would adversely affect day or nighttime views in the area. Impacts would be less than significant.

#### **4.1.5 Mitigation Measures**

No mitigation measures are required.

#### **4.1.6 Level of Significance After Mitigation**

The proposed project would not have a substantial adverse effect on a scenic vista, and impacts would be less than significant.

The proposed project would not substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway, and no impact would occur.

The proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings, and impacts would be less than significant.

The proposed project would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area, and impacts would be less than significant.



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## 4.2 AGRICULTURE AND FORESTRY RESOURCES

This section describes the existing agriculture and forestry resources of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the North River Farms Planned Development (PD) Plan (proposed project). The following analysis is based on the California Land Evaluation and Site Assessment (LESA) Report prepared for the proposed project by Dudek in March 2018 and incorporated by reference herein. The LESA Report is included in Appendix C of this EIR.

The Draft and Final EIRs evaluated a 176.6-acre project site. Since that time, the project has been revised to incorporate the additional 37.5-acres of agricultural land (Assessor's Parcel Number 122-081-30-00), known as the "Bree Property," into the project site. This results in a total project site acreage of approximately 214.1 acres. A condition of project approval will require the provision of an agricultural easement and/or deed restriction over the Bree Property that will preserve in perpetuity open space/agricultural uses at that property. Due to the condition of project approval to provide the agricultural easement, no development, improvements, or modifications would occur on the Bree property as part of this project. As such, the analysis below of the original project site remains an accurate analysis of potential impact to agricultural resources. It should be noted that the project as revised now contributes an additional 37.5 acres of preserved agricultural land within the City of Oceanside, in addition to previously proposed on-site agriculture and required mitigation.

### 4.2.1 Existing Conditions

The 176.64-acre<sup>1</sup> project site is located in the northeastern portion of the City of Oceanside (City) and comprises a portion of Assessor's Parcel Numbers 157-100-83-00 and 157-100-84-00. The project site is located in the South Morro Hills agricultural area of the City. The project site is currently used by West Coast Tomato Growers as agricultural land to cultivate tomatoes. Several existing and vacant single-family structures are located in the northern and central portions of the project site. Additionally, structures on site include a single-family residence converted into an office building, storage structures, temporary greenhouses, a transfer facility, and a water filtration facility with an associated lined pond and water tank. A network of unimproved roads and an irrigation system also extent throughout the project site. As stated in Chapter 2, Environmental Setting, the project site has an existing General Plan land use designation of A (Agricultural) and is zoned A-SP (Agricultural – Scenic Park Overlay).

The project site is surrounded by a variety of land uses. Directly west of the property are institutional uses including two churches and Melba Bishop Park. There are also existing residential homes and a plan for 1-acre estate homes. To the northwest lies the Morro Hills

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<sup>1</sup> For the agricultural soils analysis, a more exact acreage of 176.64 is used.

Master Planned Community (Arrowood) containing approximately 1,135 homes and a golf course. Directly north of the project site is a large commercial dog training and boarding facility. To the northeast lies the Paradise Falls wedding and event venue. At the northeast corner of the project site are some greenhouse and nursery agriculture operations (east of Wilshire Road).

Immediately adjacent to the project site on the south and southeast are some isolated agricultural fields (tomatoes) and the San Luis Rey River. South of the San Luis Rey River are two other isolated pockets of agriculture (tomatoes). These agricultural areas south of the San Luis Rey River border existing residential subdivisions.

Within approximately 0.5 miles of the proposed project's southwest and southeast boundaries are a Walmart Supercenter, the Mission Marketplace large commercial center, State Route (SR) 76, a Home Depot, and the Mission Vista High School campus. Also within this range are many large residential subdivisions with hundreds of homes each to the west, south, and east.

The project site is designated by the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) as a combination of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland, as shown on Figure 4.2-1 (DOC 2016). Refer to Section 4.2.2 for additional information.

The California DOC developed the California LESA Model. Embedded within the LESA Model is the NRCS soils information upon which the FMMP is woven. Since the soils data is already included in the LESA Model and Analysis, no further discussion is presented here but is instead addressed in the analysis.

### **Soils On-Site**

The purpose of the LESA analysis is to provide agencies and decision makers with a succinct and technically developed methodology to assist with assessment of the potentially significant effects on the environment related to agricultural land conversions considered in the environmental review process (California Public Resources Code, Section 21095).

The California LESA Model was developed in 1997 and based on the 1981 Land Evaluation and Site Assessment Guidebook prepared for the U.S. Department of Agriculture's (USDA's) Natural Resources Conservation Service (NRCS) Model. The California LESA Model evaluates site suitability for agricultural production and considers measures of soil resource quality, a given project site's size, water supply availability, surrounding agricultural lands, and surrounding protected resource lands. In application to a specific project, the factors are rated, weighted, and combined, resulting in a single numeric score. The final project score, which is a combination of the Land Evaluation (LE) and Site Assessment (SA) subscores, becomes the final LESA score and the basis for making a determination of a project's potential significance.

The LESA Model is split into two sections: (1) the Land Evaluation (LE) Factors, and (2) the Site Assessment (SA) Factors. LESA includes scoring sheets for ease of information summary and appraisal.

There are nine soil types occurring within the project site, as shown on Figure 4.2-3.

The California LESA Model includes the following two LE factors that are separately rated:

1. **USDA Land Capability Classification (LCC) Rating.** The LCC indicates the suitability of soils for most kinds of crops. Groupings are made according to the limitations of the soils when used to grow crops and the risk of damage to soils when they are used in agriculture. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receiving the highest rating (Class I). Specific subclasses are also utilized to further characterize soils. An expanded explanation of the LCC is included in most soil surveys.
2. **Storie Index Rating.** The Storie Index provides a numeric rating (based on a 100-point scale) of the relative degree of suitability or value of a given soil for intensive agriculture. The rating is based upon soil characteristics only. Four factors that represent the inherent characteristics and qualities of the soil are considered in the index rating. The factors are profile characteristics, texture of the surface layer, slope, and other factors (e.g., drainage, salinity).

Pursuant to the LESA Model, Table 4.2-1 summarizes the numeric conversions of Land Capability Classification Units. Table 4.2-2 provides a summary of soils types on the project site.

**Table 4.2-1  
Numeric Conversions of Land Capability Classification Units**

LCC	LCC Point Rating
I	100
Ile	90
IIs,w	80
IIIe	70
IIIs,w	60
IVe	50
IVs,w	40
V	30
VI	20
VII	10
VIII	0

**Source:** Appendix C.

**Notes:** LCC = USDA Land Capability Classification Rating

Subclass definition: e = erosion and runoff; w = excess water; s = root-zone limitations

**Table 4.2-2**  
**Summary of Soils on the Project Site**

Soil Type	Acreage	NRCS Farmland Classification	Storie Index	Land Capability Class
Bonsall sandy loam, 2% to 9% slopes, eroded	2.25	Farmland of Statewide Importance	54 (Grade 3)	Ive (if irrigated) Ive (if non-irrigated)
Bosanko clay, 2% to 9% slopes	30.36	Farmland of Statewide Importance	26 (Grade 4)	IIle (if irrigated) IIle (if non-irrigated)
Bosanko clay, 9% to 15% slopes	2.21	Not Prime Farmland	25 (Grade 4)	IIle (if irrigated) IIle (if non-irrigated)
Fallbrook sandy loam, 9% to 15% slopes, eroded	8.49	Not Prime Farmland	70 (Grade 2)	Ive (if irrigated) Ive (if non-irrigated)
Placentia sandy loam, 5% to 9% slopes, eroded	74.16	Farmland of Statewide Importance	46 (Grade 3)	Ive (if irrigated) Ive (if non-irrigated)
Placentia sandy loam, 9% to 15% slopes, eroded	21.84	Not Prime Farmland	45 (Grade 3)	Ive (if irrigated) Ive (if non-irrigated)
Tujunga sand, 0% to 5% slopes	23.42	Farmland of Statewide Importance	48 (Grade 3)	IIIs (if irrigated) Ive (if non-irrigated)
Visalia sandy loam, 0% to 2% slopes	10.33	Farmland, if irrigated and either protected from flooding or not frequently flooded during the growing season	86 (Grade 1)	I (if irrigated) IIe (if non-irrigated)
Visalia sandy loam, 2% to 5% slopes	3.58	Farmland, if irrigated	88 (Grade 1)	IIe (if irrigated) IIe (if non-irrigated)

**Source:** Appendix C.

**Notes:** NRCS = U.S. Department of Agriculture's Natural Resources Conservation Service Model

Table 4.2-3 equates to Table 1A of Land Evaluation Worksheet entitled *Land Capability Classification and Storie Index Scores* in the California Agricultural LESA Model Instruction Manual prepared by the California DOC (DOC 2011).

**Table 4.2-3**  
**Land Capability Classification and Storie Index Scores**

A	B	C	D	E	F	G	H
Soil Map Unit	Project Acres	Proportion of Project Site	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
Bonsall sandy loam, 2% to 9% slopes, eroded	2.25	0.01	Ive	50	0.50	54	0.54
Bosanko clay, 2% to 9% slopes	30.36	0.17	IIle	70	11.90	26	4.42

**Table 4.2-3  
Land Capability Classification and Storie Index Scores**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
Bosanko clay, 9% to 15% slopes	2.21	0.01	IIIe	70	0.70	25	0.25
Fallbrook sandy loam, 9% to 15% slopes, eroded	8.49	0.05	IVe	50	2.50	70	3.50
Placentia sandy loam, 5% to 9% slopes, eroded	74.16	0.42	IVe	50	21.00	46	19.32
Placentia sandy loam, 9% to 15% slopes, eroded	21.84	0.13	IVe	50	6.50	45	5.85
Tujunga sand, 0% to 5% slopes	23.42	0.13	IIIs	60	7.80	48	6.24
Visalia sandy loam, 0% to 2% slopes	10.33	0.06	I	100	6.00	86	5.16
Visalia sandy loam, 2% to 5% slopes	3.58	0.02	IIe	90	1.80	88	1.76
<b>Totals</b>	<b>176.64</b>	<b>1.0</b>	<b>—</b>	<b>LCC Total Score</b>	<b>58.70</b>	<b>Storie Index Total Score</b>	<b>47.04</b>

Source: Appendix C.

Hence, the application of the Land Evaluation Tool results in an LCC score of 58.70 and a Storie Index score of 47.04. Of the nine soil types on the project site, four are Farmland of Statewide Importance and three are Not Prime Farmland. The remaining two soil types are Farmland, if irrigated, and Farmland, if irrigated and either protected from flooding or not frequently flooded during the growing season. Because the project site is dominated by active agricultural land uses, the irrigated LCC rating has been used to most accurately reflect the existing condition of the land and ability to support crops.

## 4.2.2 Regulatory Setting

### Federal

#### *Farmland Protection Policy Act*

The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. Further, the FPPA directs federal programs to be compatible with state and local policies for the protection of farmlands. The FPPA does not authorize the federal government to regulate the use of private or non-federal land or in any way affect the property rights of owners of such land. Because the proposed project does not have federal involvement, the FPPA is not applicable in this situation.

## State

### *California Department of Conservation*

The California DOC is the state agency that administers both the State Farmland Mapping and Monitoring Program (FMMP) and the California Land Conservation Act, more commonly known as “The Williamson Act.” The Important Farmland Mapping Program compiles information of the state’s important farmlands, including tracking farmland proposed for development, and provides this information to state and local government agencies for use in planning and for decision makers and decision-making bodies.

The FMMP Important Farmland Maps are based on a classification system that combines technical soil ratings and current land use. Important Farmland Categories include Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built-up Land, and Other Land. FMMP’s Important Farmland Maps require that Prime Farmland, meet the following criteria: (1) Prime Farmland must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date, which equates to four years. Therefore, the land must have been used for irrigated agricultural production at some point in time during a 4-year period of time prior to the most recent date of the Important Farmland Map date (DOC 2017); and (2) The soil must meet the physical and chemical criteria for Prime Farmland or Farmland of Statewide Importance as determined by the USDA NRCS. NRCS compiles lists of which soils in each survey area meet the quality criteria. Factors considered in qualification of a soil by NRCS (DOC 2017) include the following:

- Water moisture regimes, available water capacity, and developed irrigation water supply
- Soil temperature range
- Acid-alkali balance
- Water table
- Soil sodium content
- Flooding (uncontrolled runoff from natural precipitation)
- Erodibility
- Permeability rate
- Rock fragment content
- Soil rooting depth

The soils information presented in this analysis is derived from statewide soils maps that have been prepared by both state and federal government entities. The California DOC, Division of Land Resource Protection, and the USDA NRCS both conduct regular and ongoing assessments of soil types and then prepare detailed soil maps. Once soils are mapped, they are grouped into the following categories that have specific definitions. The categories and definitions are as follows:

**Prime Farmland.** In California, the FMMP maps all statewide farmlands. The FMMP's soils study area is contiguous with modern soil surveys developed by the USDA. The FMMP requires that any land designated as Prime must meet the criteria related to land use and soils.

As such, farmland with the optimal combination of physical and chemical features to sustain long-term agriculture is described as Prime. The land has been determined to have the soil quality, growing season, and moisture supply needed to produce sustained high crop yields (DOC 2017).

**Farmland of Statewide Importance.** As with Prime Farmland, Farmland of Statewide Importance must also meet both the criteria described above with respect to land use and soils and is similar to the Prime Farmland category. The difference is that Farmland of Statewide Importance tolerates greater shortcomings of the soil, such as greater slopes or less ability to store moisture (DOC 2017).

**Unique Farmland.** This category of farmland is categorized as having lesser quality soils, but is still used for the production of leading agricultural crops. This farmland is typically irrigated, but can also include non-irrigated orchards or vineyards found in some climatic zones in the state. These lands must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date (DOC 2017).

**Farmland of Local Importance.** Lands that have been determined by local jurisdictional authorities such as county boards of supervisors or local advisory committees to have a specific importance to the local agricultural economy are considered Farmland of Local Importance (DOC 2017).

The FMMP has three other categories of land:

**Grazing Land.** Land that is particularly suited to the grazing of livestock given existing vegetation. This particular designation was developed in concert with the California Cattlemen's Association, University of California Cooperative Extension, and a host of other groups with an interest in grazing and livestock (DOC 2017).

**Urban and Built-Up Land.** This category refers to land that is occupied by structures with a building density of at least one unit to 1.5 acres or six structures to a 10-acre parcel. This category includes land uses such as residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other developed purposes (DOC 2017).

**Other Land.** All other lands that do not fall into the categories above are subsumed into this category. Examples of these lands include low-density rural developments, brush, timber wetland, riparian areas not suitable for livestock grazing, confined livestock poultry or aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. In addition, vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land (DOC 2017).

### ***The California Land Conservation Act of 1965***

The California Land Conservation Act of 1965, better known as the Williamson Act as mentioned above, provides for reduced property taxation on agricultural land in exchange for a 10-year continuously rolling agreement. The purpose of the Williamson Act is the long-term conservation of agricultural and open space lands. The act establishes a program to enroll land in Williamson Act whereby the land is enforceably restricted to agricultural, open space, or recreational uses or uses deemed to be “compatible” with the agricultural land uses or compatible recreational uses as outlined in the act in exchange for reduced property tax assessments.

The Act requires that each participating local government has a set of uniform rules for administering Williamson Act and Farmland Security Zone contracts within its jurisdiction. None of the project site is under a Williamson Act contract. Several nearby properties are under a Williamson Act contract as shown on Figure 4.2-2.

### ***Farmland Security Zone Act***

The Farmland Security Zone Act is similar to the Williamson Act and was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy (California Government Code, Section 51296–51297.4). Farmland Security Zone Act contracts are sometimes referred to as “Super Williamson Act Contracts.” Under the provisions of this act, a landowner already under a Williamson Act contract can apply for Farmland Security Zone status by entering into a contract with the county. Farmland Security Zone contracts must be for an initial term of at least 20 years. As with Williamson Act contracts, each year an additional year is automatically added to the contract term unless a notice of nonrenewal is given. In return for a further 35% reduction in the property tax value of land and growing improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to develop the property into nonagricultural uses during the term of the contract. Farmland Security Zone contracts may also be cancelled, but only upon finding that cancellation would both service the purposes of the Williamson Act, and that cancellation would be in the public interest (California Government Code, Section 51297). None of the project site is under a Farmland Security Zone contract.

## **Local**

### ***County of San Diego PACE Program***

The County of San Diego (County) has initiated an agricultural conservation program known as the Purchase of Agricultural Conservation Easement (PACE) Program. The “Mitigation Bank and Credits” are an expanded component of the PACE Program, approved by the Board of Supervisors in September 2014. With this expanded component, easement lands acquired by the County under the PACE Program can be used as off-site mitigation for agricultural impacts resulting from private development projects. The PACE Program is intended to preserve lands within the County for long-term agricultural use. Applicants may purchase PACE credits to mitigate for agricultural impacts at a 1:1 ratio. One credit is equal to 1 acre of agricultural land.

To purchase PACE Program mitigation credits, the applicant must have an approved discretionary project, with a condition of approval requiring agricultural mitigation. The cost of credits is determined by the fee in effect on the date of purchase. Credits, which are non-refundable and non-transferrable, can only be purchased after the proposed project has been approved.

The City does not have a mitigation program to address impacts to agricultural lands; however, the City is situated in the County.

### ***City of Oceanside General Plan***

Agricultural resources are addressed in the City’s General Plan, Land use Element and Environmental Resource Management Element (City of Oceanside 2002). As stated therein, the agriculture industry in the City is valued at approximately \$12 million annually. This accounts for approximately 10% of the County’s agricultural output. Major crops include avocados, tomatoes, citrus, and nursery stock. There are two primary areas of significant agricultural production in the City. The first, Morro Hills agricultural area (where the proposed project is located), is generally north of Mission Avenue and east of Vandegrift Boulevard.

The following policies related to agriculture can be found in the Land Use Element (City of Oceanside 2002):

**Policy 2.5A:** Agricultural areas are characterized by their primary function that is to farm, graze, or conduct animal husbandry. Agricultural areas typically involve contiguous tracts of agricultural land uses with only a very minor intrusion of non-agricultural land uses. These non-agricultural land uses are only of the type and size to service the special needs of the agricultural area.

**Policy 2.5B:** Residential development shall be permitted provided such development does not interfere with existing agricultural operations and that the open space character of the area is preserved. Appropriate minimum lot areas shall be determined by the area’s topography, adjacent land uses, and the availability of public services and utilities; however, under no

circumstances shall lot areas be less than two and one-half (2 ½) acres. Lot configurations and dimensions shall provide areas of sufficient size to conduct limited, low-intensity agricultural activities such as orchards, gardens, and the keeping of livestock.

**Policy 2.5C:** The City shall, in all proposed actions converting agricultural lands to other land uses, consider the loss of those lands to the potential agricultural productivity to the community; and shall assure that land use compatibility to agricultural lands is fully defined and assured.

**Policy 2.5D:** Land use compatibility is of primary importance to agricultural areas, since land use conflicts between agricultural and non-agricultural uses can force the economic non-viability of agricultural areas.

The following goal and objective related to agriculture can be found in the Environmental Resource Management Element (City of Oceanside 2002):

**Goal:** Evaluate the state of the environment and formulate a program of planned management, wise utilization, and preservation of our natural resources to ensure the health, safety, and welfare of present and future generations.

**Objective:** Agriculture – Designate as agriculture in the Land Use Element those areas of prime agriculture land that can still be economically cultivated.

### **4.2.3 Thresholds of Significance**

The significance criteria used to evaluate the project impacts to Agriculture and Forestry Resources are based on Appendix G of the CEQA Guidelines. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural LESA Model (2011) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. The significance criteria focus on whether the proposed project would:

1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract?

3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?
4. Result in the loss of forest land or conversion of forest land to non-forest use?
5. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

#### 4.2.4 Impacts Analysis

*Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

The project site is designated by the California DOC FMMP as a combination of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. As discussed in Section 4.2.1, the LESA Model analysis presented in this section and in Appendix C accounts for these designations through analysis of the soils present on the project site.

Application of the Land Evaluation Tool results in the following:

- LCC score of 58.70
- Storie Index score of 47.04

The nine soil types on the project site are designated as follows:

- Four are Farmland of Statewide Importance
- Three are Not Prime Farmland
- Two soil types are Farmland, if irrigated, and Farmland, if irrigated and either protected from flooding or not frequently flooded during the growing season

As the project site is dominated by active agricultural land uses, the irrigated LCC rating has been used to most accurately reflect the existing condition of the land and ability to support crops. The next step in the LESA Model is to perform a Site Assessment (SA).

The California LESA Model includes four SA factors that are separately rated:

1. The Project Size Rating
2. The Water Resources Availability Rating

3. The Surrounding Agricultural Land Use Rating
4. The Surrounding Protected Resource Land Rating

### Project Site Rating

The Site Assessment relies upon the following Project Size Scoring rubric (Table 4.2-4), which corresponds to Table 3 in the LESA Model Instruction Manual prepared by the California DOC (2011).

**Table 4.2-4  
Project Size Scoring**

LCC Class I or II Soils		LCC Class III Soils		LCC Class IV or lower Soils	
<i>Acres</i>	<i>Score</i>	<i>Acres</i>	<i>Score</i>	<i>Acres</i>	<i>Score</i>
80 or above	100	160 or above	100	320 or above	100
60–79	90	120–159	90	240–319	80
40–59	80	80–119	80	160–239	60
20–39	50	60–79	70	100–159	40
10–19	30	40–59	60	40–99	20
Fewer than 10	0	20–39	30	Fewer than 10	0
—	—	10–19	10	—	—
—	—	Fewer than 10	0	—	—

Source: Appendix C.

The following is according to the LESA Model Instruction Manual prepared by the California DOC (DOC 2011):

The inclusion of the measure of a project’s size in the California Agricultural LESA Models is a recognition of the role that farm size plays in the viability of commercial agricultural operations. In general, larger farming operations can provide greater flexibility in farm management and marketing decisions. Certain economies of scale for equipment and infrastructure can also be more favorable for larger operations. In addition, larger operations tend to have greater impacts upon the local economy through direct employment, as well as impacts upon support industries (e.g., fertilizers, farm equipment, and shipping) and food processing industries.

As such, the application of this test to the proposed project results in a score of 60 based on the size of the proposed project (Table 4.2-5).

**Table 4.2-5  
Project Size Score**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<i>Soil Map Unit</i>	<i>Project Acres and LCC</i>	<i>LCC Class I–II</i>	<i>LCC Class III</i>	<i>LCC Class IV–VIII</i>
Bonsall sandy loam, 2% to 9% slopes, eroded	IVe	—	—	2.25
Bosanko clay, 2% to 9% slopes	IIIe	—	30.36	—
Bosanko clay, 9% to 15% slopes	IIIe	—	2.21	—
Fallbrook sandy loam, 9% to 15% slopes, eroded	IVe	—	—	8.49
Placentia sandy loam, 5% to 9% slopes, eroded	IVe	—	—	74.16
Placentia sandy loam, 9% to 15% slopes, eroded	IVe	—	—	21.84
Tujunga sand, 0% to 5% slopes	IIIs	—	23.42	—
Visalia sandy loam, 0% to 2% slopes	I	10.33	—	—
Visalia sandy loam, 2% to 5% slopes	Ile	3.58	—	—
<b>Totals</b>	<b>176.64</b>	<b>13.91</b>	<b>55.99</b>	<b>106.74</b>
<b>Project Size Scores</b>	<b>—</b>	<b>30</b>	<b>60</b>	<b>40</b>
<b>Highest Project Size Score</b>	<b>60</b>			

### Water Resources Availability Rating

The Water Resources Availability Rating is based upon identifying the various water sources that may supply a given property and then determining whether different restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought. Table 4.2-6 corresponds to Table 4 in the LESA Model Instruction Manual prepared by the California DOC (DOC 2011).

**Table 4.2-6  
Water Resources Availability**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<i>Project Proportion</i>	<i>Water Source</i>	<i>Proportion of Project Site</i>	<i>Water Availability Score</i>	<i>Weighted Availability Score (CxD)</i>
1	Irrigated	1.00	80	80
<b>Total Water Resources Score</b>				<b>80</b>

Source: Appendix C.

### Surrounding Agricultural Land Use Rating and Surrounding Protected Resource Land Rating

Determination of the surrounding agricultural land use rating is based upon the identification of a project’s “Zone of Influence,” which is defined as that land near a given project, both directly adjoining and within a defined distance away, that is likely to influence, and be influenced by, the agricultural land use of the subject project site.

The Surrounding Protected Resource Land Rating is essentially an extension of the Surrounding Agricultural Land Rating, and is scored in a similar manner. Protected resource lands are those lands with long-term use restrictions that are compatible with or supportive of agricultural uses of land.

The Zone of Influence, encompassing approximately 1,375 acres, includes agriculture and rural residential land uses and is shown on Figure 4.2-4.

Table 4.2-7 corresponds to Site Assessment Worksheet 3 in the LESA Model Instruction Manual prepared by the California DOC (DOC 2011), which is a table that combines criteria 3 and 4. Based on the criteria in the Table 4.2-7, the score for this portion of the proposed project is 0 points for the surrounding land use score and 0 points for the surrounding protected resource land score.

**Table 4.2-7**  
**Surrounding Agricultural Land Use and Surrounding Protected Resource Land**

A	B	C	D	E	F	G
<i>Total Acres</i>	<i>Acres in Agriculture</i>	<i>Acres of Protected Resource Land</i>	<i>Percent in Agriculture</i>	<i>Percent Protected Land</i>	<i>Surrounding Agricultural Land Score</i>	<i>Surrounding Protected Resource Land Score</i>
1,375	455	0	33%	0%	0	0

Source: Appendix C.

### Final LESA Model Scoresheet

The Final LESA Scoresheet, Table 4.2-8, corresponds to Table 8, Final LESA Score Sheet, in the LESA Model Instruction Manual prepared by the California DOC (DOC 2011).

**Table 4.2-8**  
**Final LESA Score Sheet**

Land Evaluation and Site Assessment Factors	Factor Scores	Factor Weight	Weighted Factor Scores
<i>Land Evaluation Factors</i>			
Land Capability Classification	58.70	0.25	14.68
Storie Index	47.04	0.25	11.76
<i>Land Evaluation Subtotal</i>		<i>0.50</i>	<i>26.44</i>

**Table 4.2-8  
Final LESA Score Sheet**

Land Evaluation and Site Assessment Factors	Factor Scores	Factor Weight	Weighted Factor Scores
<i>Site Assessment Factors</i>			
Project Size	60	0.15	9
Water Resource Availability	80	0.15	12
Surrounding Agricultural Land	0	0.15	0
Protected Resource Land	0	0.05	0
<i>Site Assessment Subtotal</i>		<i>0.50</i>	<i>21</i>
<b>Final LESA Score</b>			<b>47.4</b>

Source: Appendix C.

According to the LESA Model Instruction Manual prepared by the California DOC (DOC 2011), the California LESA Model is weighted so that 50% of the total LESA score of a given project is derived from the LE factors and 50% from the SA factors. Individual factor weights are listed below, with the sum of the factor weights required to equal 100%. A single LESA score is generated for a given project after all of the individual LESA factors have been scored and weighted.

Table 4.2-9 is taken directly from the California Agricultural LESA Instruction Manual (2011) prepared by the California DOC, Office of Land Conservation (Appendix C), and summarizes the significance levels of the individual LE and SA scores and the combined significance of the total LA and SE scores. The combined LE and SA score determines the final level of significance of a project under the California Agricultural LESA Model.

**Table 4.2-9  
California LESA Model Scoring Thresholds**

Total LESA Score	Scoring Decision
0–39 Points	Not Considered Significant
40–59 Points	Considered Significant only if the LE and the SA subscores are each greater than or equal to 20 points.
60–79 Points	Considered Significant unless either the LE or the SA subscore is less than 20 points.
80–100 Points	Considered Significant

Source: Appendix C.

As shown in Table 4.2-8, the total score for the proposed project is 47.4, which lies between the 40–59 scoring criteria for Significant if both the LE and SA subscores are equal to or greater than 20. As shown in Table 4.2-8, both the LE and SA subscores exceed the threshold of 20. Therefore, the entire project site is considered to represent a significant agricultural resource based on the LESA Model. Development of the proposed would directly contribute to the loss of approximately 176.64 acres of significant agricultural resources, and impacts would be potentially significant. While the proposed

project would include approximately ~~31.668.1~~ acres of proposed agricultural uses (including the Bree Property), for the purposes of a conservative analysis, the entire project site would be considered impacted. Mitigation measure (MM-) AG-1 would require purchase of mitigation credits into a potential future City agricultural lands conservation program (should one be established prior to the time of grading permit issuance) or the County program known as the PACE Program equal to the loss of significant agricultural resources. With incorporation of MM-AG-1, potentially significant impacts related to agricultural resources would be reduced to less than significant.

***Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?***

The project site is not subject to a Williamson Act contract (DOC 2013). As shown on Figure 4.2-2, the project site is located in the vicinity of existing Williamson Act contract land; the potential impacts regarding nearby existing agricultural lands are discussed below. The project site is zoned A (Agricultural) and A-SP (Agricultural – Scenic Park Overlay). The proposed project constitutes the zoning, use regulations, and development criteria for future development of the project site including residential, commercial, and mixed-use. The proposed development would conflict with the existing zoning for agricultural use. However, a Zoning Ordinance Amendment is proposed that would designate the entire property as Planned Development – (PD). The proposed project has been prepared in accordance with the provisions of the City’s Zoning Ordinance, specifically Article 17, which outlines the requirements of the PD district. The Zoning Ordinance Amendment would be proposed concurrently with the proposed project. Therefore, the proposed Zoning Ordinance Amendment, if adopted, would avoid conflicts between proposed development and the existing zoning. If adopted, impacts would be less than significant.

***Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?***

The project site is not designated for or currently occupied by forest lands or lands otherwise used for forest/timberland production. No impact would occur.

***Would the project result in the loss of forest land or conversion of forest land to non-forest use?***

The project site is not designated for or currently occupied by forest lands or lands otherwise used for forest/timberland production. No impact would occur.

*Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?*

Possible adverse indirect impacts caused by incompatible development near existing agricultural uses include farm practice complaints; pesticide drift and use limitations; liability concerns; and economic instability caused by urbanization and changing land values; trespassing, damage to equipment, crops, and livestock; crop and irrigation spraying limitations due to urban use encroachment; and introduction of urban use pollutants entering farm water sources. Implementation of the proposed project would not directly or indirectly result in changes to the environment that may result in the conversion of forest land to non-forest use.

Generally, Wilshire Road, separates the project site from existing agricultural operations near the northeast tip of the project boundary. Existing agricultural lands lie immediate adjacent to the project site to the south. The proposed project would include on-site design elements of large areas of continued agricultural uses around the proposed project's south and southeast edges, landscape buffer edge around the project site in the west, north, and east, and a water retention basin, which project design features would be adjacent to and would buffer the limited agricultural lands, the residential properties, and the commercial uses along the proposed project's boundaries.

Isolated agricultural fields exist south of the project site, across the San Luis Rey River, and are currently surrounded by existing residential subdivisions and other development. The introduction of the proposed project, given that the proposed project also includes agricultural operations and other buffers, would not adversely affect these surrounding existing agricultural lands.

Construction and operation of the proposed project could result in potential indirect effects, such as water quality and urban runoff, dust, or land use compatibility, which may affect surrounding agricultural land uses. As discussed in Section 4.10, Hydrology and Water Quality, compliance with water quality regulations, including preparation of a Stormwater Pollution Prevention Plan, and operational water quality and drainage features, runoff would be treated to acceptable levels through Best Management Practices prior to discharge from the project site. Further, the proposed project would not substantially affect groundwater recharge.

Therefore, with incorporation of water quality/runoff features and open space/agricultural buffers from existing off-site active agricultural land uses, the proposed project would not result in other changes to the existing environment that could result in the conversion of farmland or non-agricultural use. Impacts would be less than significant.

### 4.2.5 Mitigation Measures

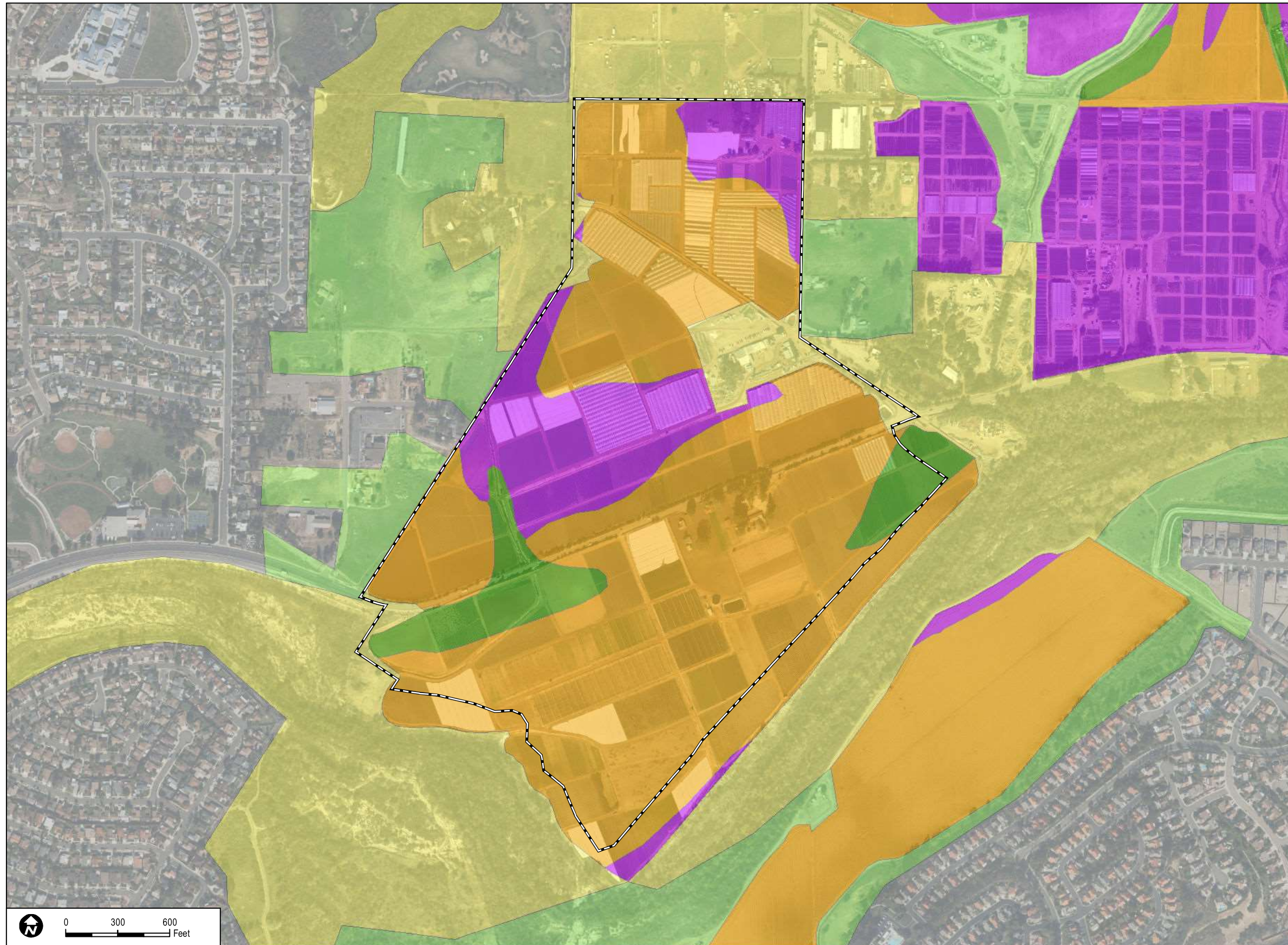
The following mitigation measures would reduce the significant impact related to the conversion of agricultural lands to a level below significance:








**MM-AGR-1** The City of Oceanside (City) does not currently have an adopted agricultural mitigation program. In the event the City adopts an effective agricultural conservation or mitigation program prior to the applicant filing its first application for a grading permit, the applicant shall be required to purchase mitigation credits from an adopted City agricultural conservation program for the direct loss of 176.64 acres of agricultural land at a 1:1 ratio, or as otherwise required by the adopted program.

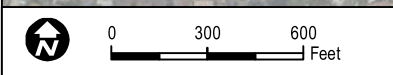
Should no adopted City agricultural mitigation program be in place at the time of application for a grading permit, the applicant shall be required to purchase mitigation credits from the Purchase of Agricultural Conservation Easement (PACE) Program in the County of San Diego (County) for the direct loss of 176.64 acres of agricultural land. The County's PACE program is an approved mitigation banking method that uses in-lieu fees to purchase PACE credits to offset agricultural impacts. Each acre of land permanently protected with an agricultural conservation easement under the PACE program would equate to one mitigation credit. Therefore, prior to issuance of a grading permit, the applicant shall mitigate for the loss of 176.64 acres of agricultural land at a 1:1 ratio by the purchase of 176.64 mitigation credits through the County's PACE program. Proof of purchase of either City mitigation credits as established in an adopted program or PACE Program mitigation credits shall be made prior to the issuance of the first grading permit to the satisfaction of the City.

### 4.2.6 Level of Significance After Mitigation

With incorporation of MM-AG-1, potentially significant impacts to agricultural resources on the project site would be reduced to a level below significance. The proposed project would result in less-than-significant impacts to Williamson Act contract and agricultural zoned lands. In addition, the proposed project would not impact or result in the loss of any forest/timberland.



-  Project Site
- Farmland Mapping & Monitoring Program**
-  Prime Farmland
-  Farmland of Statewide Importance
-  Farmland of Local Importance
-  Unique Farmland
-  Other Land
-  Urban and Built Up Land



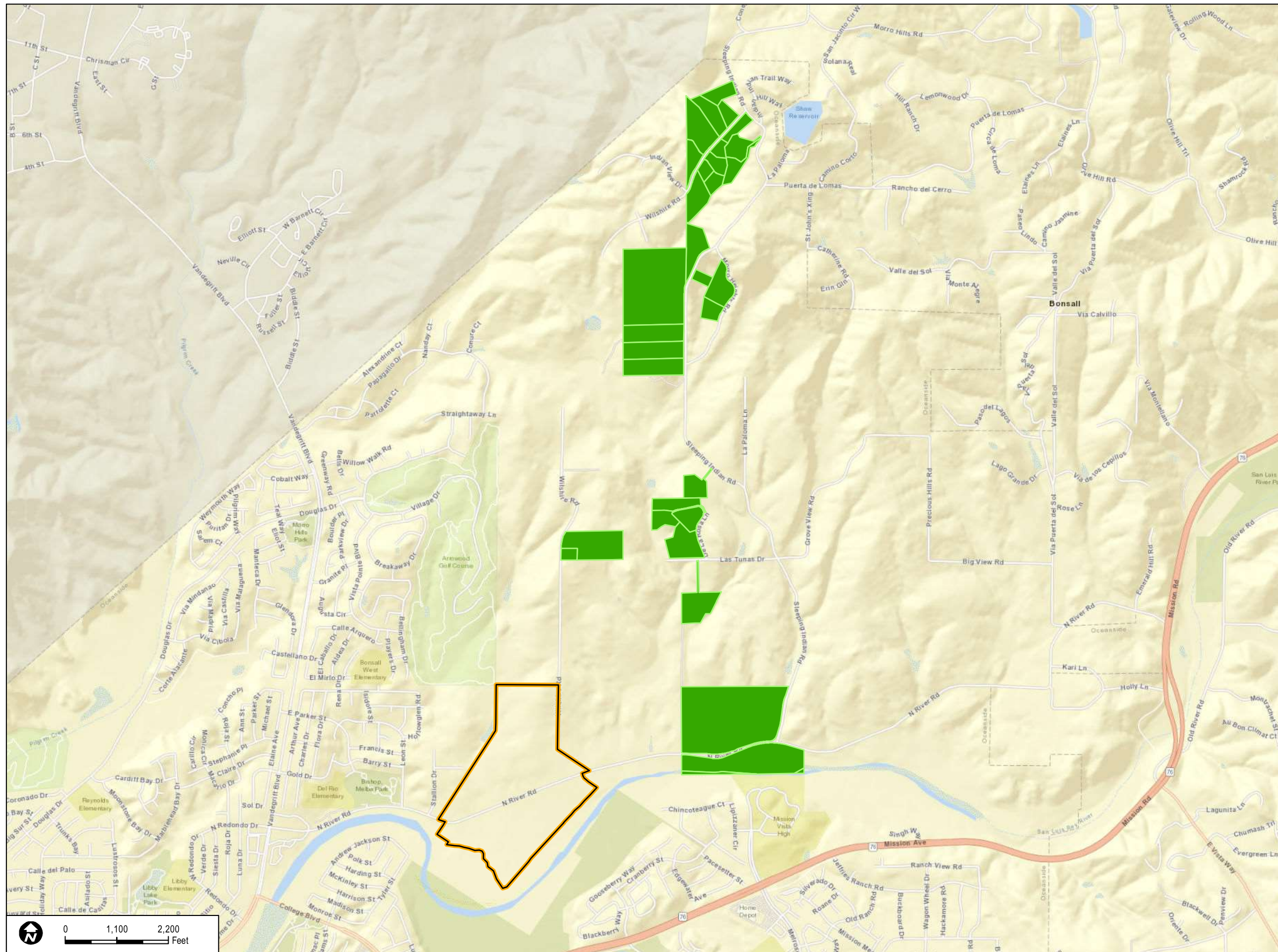
SOURCE: AERIAL-BING MAPPING SERVICE; FMMP-CA Dept of Conservation 2016



**DUDEK**

**FIGURE 4.2-1**  
**On-site Designated Farmland**

North River Farms Planned Development Plan EIR

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-  PROJECT SITE
-  WILLIAMSON ACT- PRIME AGRICULTURAL LAND

SOURCE: WILLIAMSON ACT - CA Dept of Conservation 2016

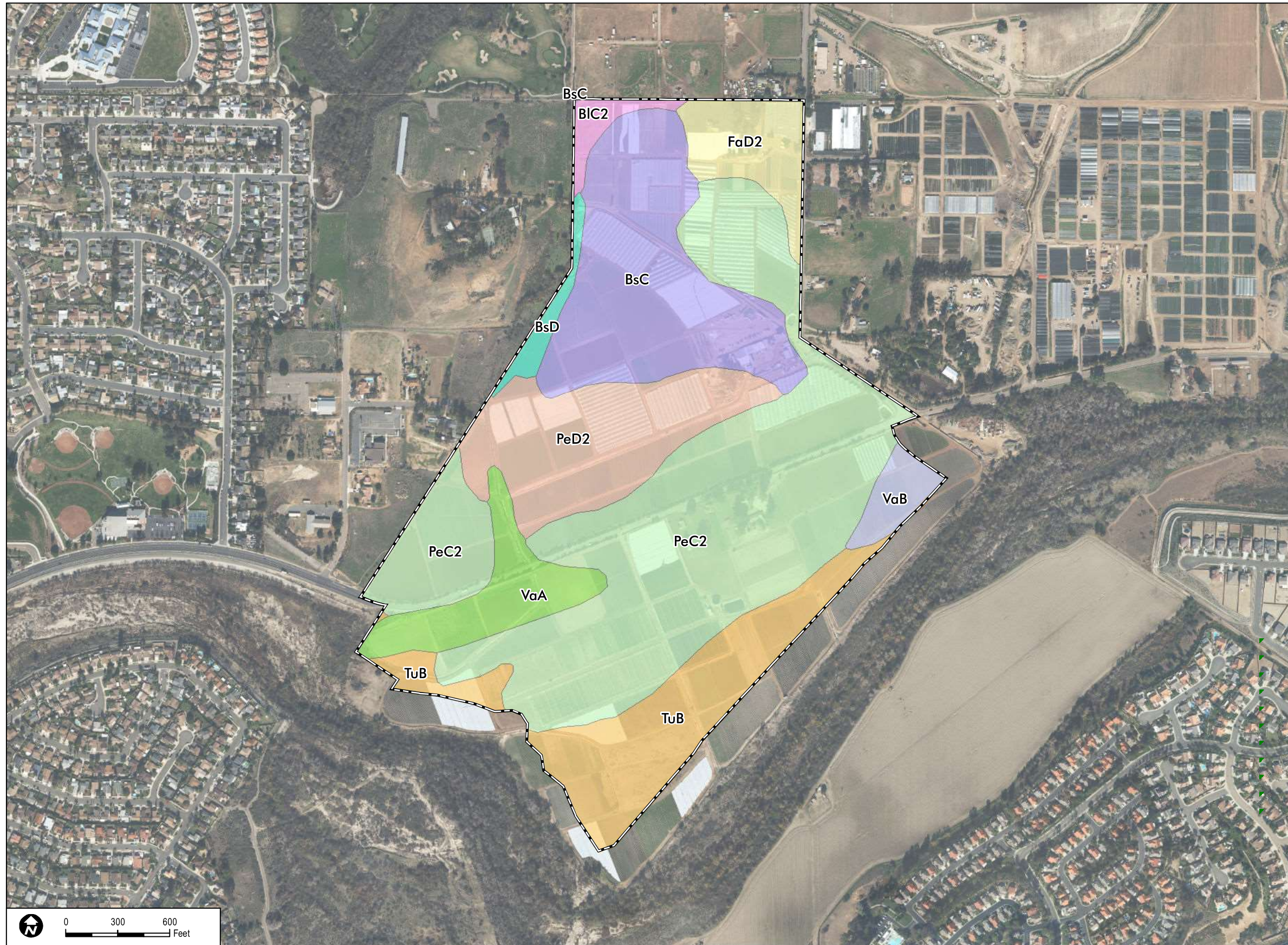
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**FIGURE 4.2-2**

**Williamson Act Contract Land**

North River Farms Planned Development Plan EIR

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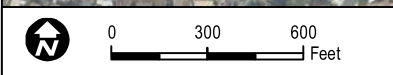


Project Site

**Soils Code**

- BIC2
- BsC
- BsD
- FaD2
- PeC2
- PeD2
- TuB
- VaA
- VaB

MUSYM	MUName
BIC2	Bonsall sandy loam, 2 to 9 percent slopes, eroded
BsC	Bosanko clay, 2 to 9 percent slopes
FaD2	Fallbrook sandy loam, 9 to 15 percent slopes, eroded
VaB	Visalia sandy loam, 2 to 5 percent slopes
BsC	Bosanko clay, 2 to 9 percent slopes
PeC2	Placentia sandy loam, 5 to 9 percent slopes, eroded
TuB	Tujunga sand, 0 to 5 percent slopes
BsD	Bosanko clay, 9 to 15 percent slopes
PeD2	Placentia sandy loam, 9 to 15 percent slopes, eroded
PeC2	Placentia sandy loam, 5 to 9 percent slopes, eroded
VaA	Visalia sandy loam, 0 to 2 percent slopes

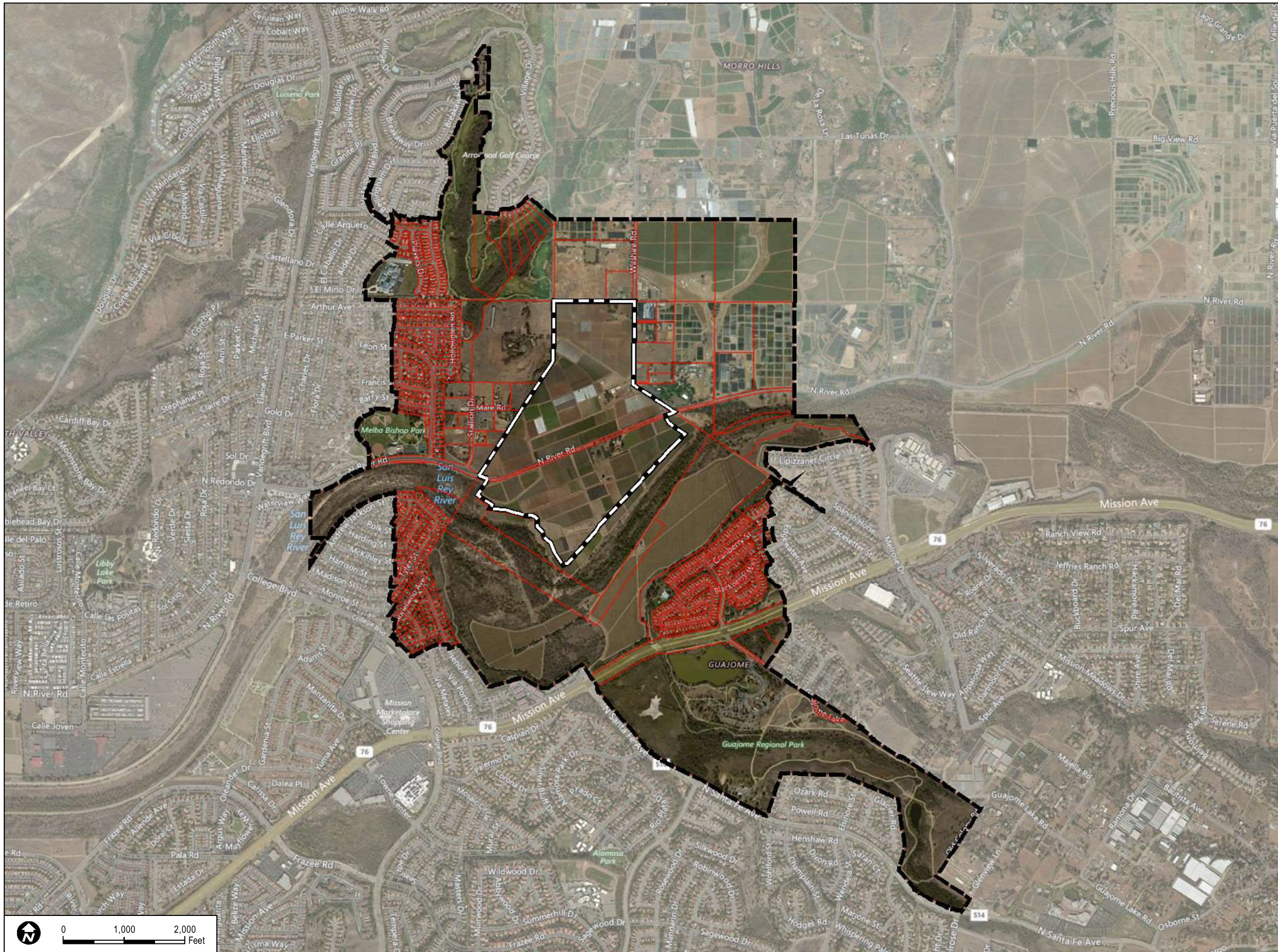





SOURCE: AERIAL-BING MAPPING SERVICE; SOILS-USDA

**DUDEK**

**FIGURE 4.2-3  
Soils Map**

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-  Zone of Influence (ZOI)
-  Project Site
-  Assessor's Parcels within ZOI

SOURCE: AERIAL-BING MAPPING SERVICE; SOILS-USDA



**FIGURE 4.2-4**  
**Zone of Influence**

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## 4.3 AIR QUALITY

This section describes the existing air quality setting of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures as necessary related to implementation of the North River Farms Planned Development (PD) Plan (proposed project). The following analysis is based on the Air Quality Analysis Technical Report that was prepared for the proposed project by Dudek in June 2018 and the North River Farms Estimate PV Loads Report prepared for the proposed project by VCA Green in January 2019. These reports are incorporated by reference herein. The Air Quality Analysis Technical Report and the PV Loads Report are included in Appendices D1 and D2 of this Environmental Impact Report (EIR), respectively.

### 4.3.1 Existing Conditions

The project site is located within the San Diego Air Basin (SDAB) and is subject to San Diego County Air Pollution Control District (SDAPCD) guidelines and regulations. The SDAB is 1 of 15 air basins that geographically divide California. The SDAB lies in the southwest corner of California. The SDAB comprises the entire San Diego region and covers approximately 4,260 square miles.

The primary factors that determine air quality are the locations of air pollutant sources and the amount of pollutants emitted. Meteorological and topographical conditions, however, are also important. Factors such as wind speed and direction, air temperature gradients and sunlight, and precipitation and humidity interact with physical landscape features to determine the movement and dispersal of air pollutants. Meteorological and topographical factors that affect air quality in the SDAB are described below.

#### Climate

The climate of the San Diego region, as in most of Southern California, is influenced by the strength and position of the semi-permanent high-pressure system over the Pacific Ocean, known as the Pacific High. This high-pressure ridge over the West Coast often creates a pattern of late night and early morning low clouds, hazy afternoon sunshine, daytime onshore breezes, and little temperature variation year-round. The SDAB is characterized as a Mediterranean climate with dry, warm summers and mild, occasionally wet winters. Average temperature ranges (in degrees Fahrenheit (°F)) from the mid-40s to the high 90s, with an average of 201 days warmer than 70°F.

The SDAB experiences 9 to 13 inches of rainfall annually, with most of the region's precipitation falling from November through March, with infrequent (approximately 10%) precipitation during the summer. El Niño and La Niña patterns have large effects on the annual rainfall received in San Diego, where San Diego receives less than normal rainfall during La Niña years. The interaction of ocean, land, and the Pacific High maintains clear skies for much of the year and influences the direction of prevailing winds (westerly to northwesterly). The winds tend to blow onshore in the day and offshore at night.

Local terrain is often the dominant factor inland, and winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

The favorable climate of San Diego also works to create air pollution problems. Sinking, or subsiding air from the Pacific High, creates a temperature inversion known as a subsidence inversion, which acts as a “lid” to vertical dispersion of pollutants. Weak summertime pressure gradients further limit horizontal dispersion of pollutants in the mixed layer below the subsidence inversion. Poorly dispersed anthropogenic emissions combined with strong sunshine leads to photochemical reactions that result in the creation of ozone (O<sub>3</sub>) at this surface layer. In addition, light winds during the summer further limit ventilation.

In the fall months, the SDAB is often impacted by Santa Ana winds, which are the result of a high-pressure system over the Nevada and Utah regions that overcomes the westerly wind pattern and forces hot, dry winds from the east to the Pacific Ocean. The Santa Ana winds are powerful and can blow the SDAB’s pollutants out to sea. However, a weak Santa Ana can transport air pollution from the South Coast Air Basin (located to the north) and greatly increase O<sub>3</sub> concentrations in the San Diego area.

Under certain conditions, atmospheric oscillation results in the offshore transport of air from the Los Angeles region to San Diego County. This often produces high O<sub>3</sub> concentrations, as measured at air pollutant monitoring stations within San Diego County. The transport of air pollutants from Los Angeles to San Diego can also occur within the stable layer of the elevated subsidence inversion, where high levels of O<sub>3</sub> are transported.

### **Site-Specific Meteorological Conditions**

The local climate on the project site is characterized as semi-arid with consistently mild, warmer temperatures throughout the year. The average summertime high temperature in the region is approximately 67.6°F, with highs reaching 73.6°F on average during the months of July through September. The average wintertime low temperature is approximately 52.9°F, reaching as low as 44.2°F on average during the months of November through March. Average precipitation in the local area is approximately 10.54 inches per year, with the bulk of precipitation falling between November and March (WRCC 2016).

### **Air Pollution Climatology**

The project site is located within the SDAB and is subject to the SDAPCD guidelines and regulations. Pursuant to the 1990 federal Clean Air Act amendments, the Environmental Protection Agency (EPA) classifies air basins (or portions thereof) as “attainment” or “nonattainment” for each criteria air pollutant, based on whether the National Ambient Air Quality Standards (NAAQS) have been achieved. Generally, if the recorded concentrations of a

pollutant are lower than the standard, the area is classified as “attainment” for that pollutant. If an area exceeds the standard, the area is classified as “nonattainment” for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as “unclassified” or “unclassifiable.” The designation of “unclassifiable/attainment” means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are re-designated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as “attainment” or “nonattainment,” but based on California Ambient Air Quality Standards (CAAQS) rather than the NAAQS.

The SDAB experiences frequent temperature inversions. Subsidence inversions occur during the warmer months as descending air associated with the Pacific High Pressure Zone meets cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce O<sub>3</sub>, commonly known as smog.

Light daytime winds, predominately from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to carbon monoxide (CO) and oxides of nitrogen (NO<sub>x</sub>) emissions. CO concentrations are generally higher in the morning and late evening. In the morning, CO levels are elevated due to cold temperatures and the large number of motor vehicles traveling. Higher CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO is produced almost entirely from automobiles, the highest CO concentrations in the basin are associated with heavy traffic. Nitrogen dioxide (NO<sub>2</sub>) levels are also generally higher during fall and winter days.

Under certain conditions, atmospheric oscillation results in the offshore transport of air from the Los Angeles region to San Diego County. This often produces high O<sub>3</sub> concentrations, as measured at air pollutant monitoring stations within the County. The transport of air pollutants from Los Angeles to San Diego has also occurred within the stable layer of the elevated subsidence inversion, where high levels of O<sub>3</sub> are transported.

### **Air Quality Characteristics**

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion. Reduced visibility,

eye irritation, and adverse health impacts upon those persons termed sensitive receptors are the most serious hazards of existing air quality conditions in the area. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

### SDAB Attainment Designation

An area is designated in attainment when it is in compliance with the NAAQS and/or CAAQS. These standards are set by the EPA or CARB for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare.

The criteria pollutants of primary concern that are considered in this analysis are O<sub>3</sub>, NO<sub>2</sub>, CO, SO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. Although there are no ambient standards for VOCs or NO<sub>x</sub>, they are important as precursors to O<sub>3</sub>.

The portion of the SDAB where the proposed project is located in is designated as attainment or unclassifiable/unclassified for all other criteria pollutants under the NAAQS and CAAQS. The SDAB is designated as an attainment area for the 1997 8-hour O<sub>3</sub> NAAQS and as a nonattainment area for the 2008 8-hour O<sub>3</sub> NAAQS. The SDAB is designated as a nonattainment area for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> CAAQS.

Table 4.3-1 summarizes the SDAB's federal and state attainment designations for each of the criteria pollutants.

**Table 4.3-1  
San Diego Air Basin Attainment Classification**

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone (O <sub>3</sub> ) – 1 hour <sup>a</sup>	Attainment <sup>a</sup>	<b>Nonattainment</b>
O <sub>3</sub> (8-hour – 1997) (8-hour – 2008)	Attainment (Maintenance) <b>Nonattainment (Moderate)</b>	<b>Nonattainment</b>
Nitrogen Dioxide (NO <sub>2</sub> )	Unclassifiable/Attainment	Attainment
Carbon Monoxide (CO)	Attainment (Maintenance)	Attainment
Sulfur Dioxide (SO <sub>2</sub> )	Unclassifiable/Attainment	Attainment
Coarse Particulate Matter (PM <sub>10</sub> )	Unclassifiable/Attainment	<b>Nonattainment</b>
Fine Particulate Matter (PM <sub>2.5</sub> )	Unclassifiable/Attainment	<b>Nonattainment</b>
Lead (Pb)	Unclassifiable/Attainment	Attainment
Hydrogen Sulfide	No federal standard	Attainment

**Table 4.3-1  
San Diego Air Basin Attainment Classification**

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Sulfates	No federal standard	Unclassified
Visibility-Reducing Particles	No federal standard	Unclassified
Vinyl Chloride	No federal standard	No designation

**Sources:** EPA 2016a (federal); CARB 2016a (state).

**Notes:** Attainment = meets the standards; Attainment/Maintenance = achieve the standards after a nonattainment designation; Nonattainment = does not meet the standards; Unclassified or Unclassifiable = insufficient data to classify; Unclassifiable/Attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.

<sup>a</sup> The federal 1-hour standard of 0.12 ppm was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in state implementation plans (SIPs).

### Air Quality Monitoring Data

The SDAPCD operates a network of ambient air monitoring stations throughout San Diego County, which measure ambient concentrations of pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across the state. Local ambient air quality is monitored by the SDAPCD.

The nearest SDAPCD-operated monitoring station is the Camp Pendleton monitoring station, which is located approximately 6.8 miles southwest of the project site. This site was used to show the background ambient air quality for O<sub>3</sub> and NO<sub>2</sub>. The closest monitoring site that measures PM<sub>10</sub> and PM<sub>2.5</sub> is the Kearny Villa Road monitoring station located at 6125A Kearny Villa Road, San Diego, which is about 29 miles southeast of the site. The closest monitoring site that measures CO and SO<sub>2</sub> is the Floyd Smith Drive monitoring station located at 10537 Floyd Smith Drive, El Cajon, which is about 35 miles southeast of the site. The most recent background ambient air quality data and number of days exceeding the ambient air quality standards from 2014 to 2016 are presented in Table 4.3-2.

**Table 4.3-2  
Local Ambient Air Quality Data**

Averaging Time	Unit	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
				2014	2015	2016	2014	2015	2016
<i>Ozone (O<sub>3</sub>) – Camp Pendleton</i>									
Maximum 1-hour concentration	ppm	State	0.09	0.097	0.093	0.083	1	0	0
Maximum 8-hour concentration	ppm	State	0.070	0.080	0.077	0.073	6	3	5
		Federal	0.070	0.079	0.076	0.073	5	2	4
<i>Nitrogen Dioxide (NO<sub>2</sub>) – Camp Pendleton</i>									
Maximum 1-hour concentration	ppm	State	0.18	0.060	0.060	0.072	0	0	0

**Table 4.3-2  
Local Ambient Air Quality Data**

Averaging Time	Unit	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
				2014	2015	2016	2014	2015	2016
		Federal	0.100	0.060	0.060	0.072	0	0	0
Annual concentration	ppm	State	0.030	0.007	0.007	0.006	—	—	—
		Federal	0.053	0.007	0.007	0.006	—	—	—
<i>Carbon Monoxide (CO) – Floyd Smith Drive</i>									
Maximum 1-hour concentration	ppm	State	20	2.0	1.4	1.7	0	0	0
		Federal	35	2.0	1.4	1.7	0	0	0
Maximum 8-hour concentration	ppm	State	9.0	1.8	1.1	1.0	0	0	0
		Federal	9	1.8	1.1	1.0	0	0	0
<i>Sulfur Dioxide (SO<sub>2</sub>) – Floyd Smith Drive</i>									
Maximum 1-hour concentration	ppm	Federal	0.075	0.012	0.012	0.018	0	0	0
Maximum 24-hour concentration	ppm	Federal	0.14	0.005	0.004	0.005	0	0	0
Annual concentration	ppm	Federal	0.030	0.001	0.001	0.001	0	0	0
<i>Coarse Particulate Matter (PM<sub>10</sub>)<sup>a</sup> – Kearny Villa Road</i>									
Maximum 24-hour concentration	µg/m <sup>3</sup>	State	50	39.0	37.0	35.0	0.0 (0)	0.0 (0)	0.0 (0)
		Federal	150	39.0	39.0	36.0	0.0 (0)	0.0 (0)	0.0 (0)
Annual concentration	µg/m <sup>3</sup>	State	20	19.5	16.7	—	0.0 (0)	0.0 (0)	—
<i>Fine Particulate Matter (PM<sub>2.5</sub>)<sup>a</sup> – Kearny Villa Road</i>									
Maximum 24-hour concentration	µg/m <sup>3</sup>	Federal	35	20.2	25.7	19.4	0.0 (0)	0.0 (0)	0.0 (0)
Annual concentration	µg/m <sup>3</sup>	State	12	8.7	—	7.8	0.0 (0)	0.0 (0)	0.0 (0)
		Federal	12.0	8.1	7.2	7.5	0.0 (0)	0.0 (0)	0.0 (0)

**Sources:** CARB 2016b; EPA 2016b.

**Notes:** — = not available; µg/m<sup>3</sup> = micrograms per cubic meter; ppm = parts per million

Data taken from CARB iADAM (<http://www.arb.ca.gov/adam>) and EPA AirData (<http://www.epa.gov/airdata/>) represent the highest concentrations experienced over a given year.

All criteria pollutants, except for O<sub>3</sub>, did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour O<sub>3</sub>, annual PM<sub>10</sub>, or 24-hour SO<sub>2</sub>, nor is there a state 24-hour standard for PM<sub>2.5</sub>.

Camp Pendleton monitoring station is located at 21441 West B Street, Camp Pendleton, California.

El Cajon monitoring station is located at West Bradley Avenue and Floyd Smith Drive, El Cajon, California.

San Diego – Kearny Villa Road monitoring station is located at 6125A Kearny Villa Road, San Diego, California.

<sup>a</sup> Measurements of PM<sub>10</sub> and PM<sub>2.5</sub> are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard. Daily exceedances for particulate matter are estimated days because PM<sub>10</sub> and PM<sub>2.5</sub> are not monitored daily.

## 4.3.2 Regulatory Setting

### Federal

#### *Criteria Air Pollutants*

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, including setting NAAQS for major air pollutants; setting hazardous air pollutant (HAP) standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric O<sub>3</sub> protection measures, and enforcement provisions. Under the Clean Air Act, NAAQS are established for the following criteria pollutants: O<sub>3</sub>, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O<sub>3</sub>, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O<sub>3</sub>, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan (SIP) that demonstrates how those areas will attain the standards within mandated time frames.

#### *Hazardous Air Pollutants*

The 1977 federal CAA amendments required the EPA to identify National Emission Standards for Hazardous Air Pollutants to protect public health and welfare. Hazardous air pollutants include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 CAA amendments, which expanded the control program for hazardous air pollutants, 187 substances and chemical families were identified as hazardous air pollutants.

### State

#### *Criteria Air Pollutants*

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB,

which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB has established CAAQS, which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered “in attainment” if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O<sub>3</sub>, CO, SO<sub>2</sub> (1-hour and 24-hour), NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The NAAQS and CAAQS are presented in Table 4.3-3.

**Table 4.3-3  
Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards <sup>a</sup>	National Standards <sup>b</sup>	
		Concentration <sup>c</sup>	Primary <sup>c,d</sup>	Secondary <sup>c,e</sup>
O <sub>3</sub>	1 hour	0.09 ppm (180 µg/m <sup>3</sup> )	—	Same as Primary Standard <sup>f</sup>
	8 hours	0.070 ppm (137 µg/m <sup>3</sup> )	0.070 ppm (137 µg/m <sup>3</sup> ) <sup>f</sup>	
NO <sub>2</sub> <sup>g</sup>	1 hour	0.18 ppm (339 µg/m <sup>3</sup> )	0.100 ppm (188 µg/m <sup>3</sup> )	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )	
CO	1 hour	20 ppm (23 mg/m <sup>3</sup> )	35 ppm (40 mg/m <sup>3</sup> )	None
	8 hours	9.0 ppm (10 mg/m <sup>3</sup> )	9 ppm (10 mg/m <sup>3</sup> )	
SO <sub>2</sub> <sup>h</sup>	1 hour	0.25 ppm (655 µg/m <sup>3</sup> )	0.075 ppm (196 µg/m <sup>3</sup> )	—
	3 hours	—	—	0.5 ppm (1,300 µg/m <sup>3</sup> )
	24 hours	0.04 ppm (105 µg/m <sup>3</sup> )	0.14 ppm (for certain areas) <sup>g</sup>	—
	Annual	—	0.030 ppm (for certain areas) <sup>g</sup>	—
PM <sub>10</sub> <sup>i</sup>	24 hours	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m <sup>3</sup>	—	
PM <sub>2.5</sub> <sup>j</sup>	24 hours	—	35 µg/m <sup>3</sup>	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	12.0 µg/m <sup>3</sup>	15.0 µg/m <sup>3</sup>
Lead <sup>j,k</sup>	30-day Average	1.5 µg/m <sup>3</sup>	—	—
	Calendar Quarter	—	1.5 µg/m <sup>3</sup> (for certain areas) <sup>k</sup>	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 µg/m <sup>3</sup>	
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m <sup>3</sup> )	—	—
Vinyl chloride <sup>l</sup>	24 hours	0.01 ppm (26 µg/m <sup>3</sup> )	—	—
Sulfates	24- hours	25 µg/m <sup>3</sup>	—	—

**Table 4.3-3  
Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards <sup>a</sup>	National Standards <sup>b</sup>	
		Concentration <sup>c</sup>	Primary <sup>c,d</sup>	Secondary <sup>c,e</sup>
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016c.

**Notes:**  $\mu\text{g}/\text{m}^3$  = micrograms per cubic meter; CO = carbon monoxide;  $\text{mg}/\text{m}^3$  = milligrams per cubic meter;  $\text{NO}_2$  = nitrogen dioxide;  $\text{O}_3$  = ozone;  $\text{PM}_{10}$  = particulate matter with an aerodynamic diameter less than or equal to 10 microns;  $\text{PM}_{2.5}$  = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns; ppm = parts per million by volume;  $\text{SO}_2$  = sulfur dioxide

<sup>a</sup> California standards for  $\text{O}_3$ , CO,  $\text{SO}_2$  (1-hour and 24-hour),  $\text{NO}_2$ , suspended particulate matter ( $\text{PM}_{10}$ ,  $\text{PM}_{2.5}$ ), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

<sup>b</sup> National standards (other than  $\text{O}_3$ ,  $\text{NO}_2$ ,  $\text{SO}_2$ , particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The  $\text{O}_3$  standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For  $\text{PM}_{10}$ , the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above  $150 \mu\text{g}/\text{m}^3$  is equal to or less than 1. For  $\text{PM}_{2.5}$ , the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

<sup>c</sup> Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of  $25^\circ\text{C}$  and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of  $25^\circ\text{C}$  and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

<sup>d</sup> National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

<sup>e</sup> National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

<sup>f</sup> On October 1, 2015, the EPA Administrator signed the notice for the final rule to revise the primary and secondary NAAQS for  $\text{O}_3$ . The EPA is revising the levels of both standards from 0.075 ppm to 0.070 ppm and retaining their indicators ( $\text{O}_3$ ), forms (fourth-highest daily maximum, averaged across 3 consecutive years) and averaging times (8 hours). The EPA is in the process of submitting the rule for publication in the Federal Register. The final rule will be effective 60 days after the date of publication in the Federal Register. The lowered national 8-hour standards are reflected in the table.

<sup>g</sup> To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

<sup>h</sup> On June 2, 2010, a new 1-hour  $\text{SO}_2$  standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971  $\text{SO}_2$  national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

<sup>i</sup> On December 14, 2012, the national annual  $\text{PM}_{2.5}$  primary standard was lowered from  $15 \mu\text{g}/\text{m}^3$  to  $12.0 \mu\text{g}/\text{m}^3$ . The existing national 24-hour  $\text{PM}_{2.5}$  standards (primary and secondary) were retained at  $35 \mu\text{g}/\text{m}^3$ , as was the annual secondary standard of  $15 \mu\text{g}/\text{m}^3$ . The existing 24-hour  $\text{PM}_{10}$  standards (primary and secondary) of  $150 \mu\text{g}/\text{m}^3$  were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

<sup>j</sup> CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

<sup>k</sup> The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard ( $1.5 \mu\text{g}/\text{m}^3$  as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

### ***Toxic Air Contaminants***

The state Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner). The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. The Air Toxics “Hot Spots” Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions. TAC emissions from individual facilities are quantified and prioritized. “High-priority” facilities are required to perform a health risk assessment (HRA), and if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. DPM is typically composed of carbon particles (“soot,” also called black carbon, or BC) and numerous organic compounds, including over 40 known cancer-causing organic substances. The CARB classified “particulate emissions from diesel-fueled engines” (i.e., DPM; 17 CCR 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars, and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000).

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000 (CARB 2000). Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. All of these regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel powered equipment. Several Airborne Toxic Control Measures (ATCMs) that reduce diesel emissions including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

### **California Health and Safety Code Section 41700**

Section 41700 of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or

that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

## **Local**

### ***San Diego Air Pollution Control District***

Although CARB is responsible for the regulation of mobile emissions sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. The project site is located within the SDAB and is subject to the guidelines and regulations of the SDAPCD.

### ***Federal Attainment Plans***

In December 2016, the SDAPCD adopted an update to the Eight-Hour Ozone Attainment Plan for San Diego County (2008 O<sub>3</sub> NAAQS). The 2016 Eight-Hour Ozone Attainment Plan for San Diego County indicates that local controls and state programs would allow the region to reach attainment of the federal 8-hour O<sub>3</sub> standard (1997 O<sub>3</sub> NAAQS) by 2018 (SDAPCD 2016). In this plan, SDAPCD relies on the Regional Air Quality Strategy (RAQS) to demonstrate how the region will comply with the federal O<sub>3</sub> standard. The RAQS details how the region will manage and reduce O<sub>3</sub> precursors (NO<sub>x</sub> and VOCs) by identifying measures and regulations intended to reduce these pollutants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of CARB and the EPA. Incentive programs for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS.

Currently, the County is designated as moderate nonattainment for the 2008 NAAQS and maintenance for the 1997 NAAQS. As documented in the 2016 8-Hour Ozone Attainment Plan for San Diego County, the County has a likely chance of obtaining attainment due to the transition to low emission cars, stricter new source review rules, and continuing the requirement of general conformity for military growth and the San Diego International Airport. The County will also continue emission control measures including ongoing implementation of existing regulations in ozone precursor reduction to stationary and area-wide sources, subsequent inspections of facilities and sources, and the adoption of laws requiring Best Available Retrofit Control Technology for control of emissions (SDAPCD 2016).

### ***State Attainment Plans***

The SDAPCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient

air quality standards in the SDAB. The RAQS for the SDAB was initially adopted in 1991 and is updated on a triennial basis, most recently in 2016 (SDAPCD 2016). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O<sub>3</sub>. The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County and the cities in the county, to forecast future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the county as part of the development of their general plans (SANDAG 2017a, 2017b).

In December 2016, the SDAPCD adopted the revised RAQS for the County. Since 2007, the San Diego region reduced daily VOC emissions and NO<sub>x</sub> emissions by 3.9% and 7.0% respectively; the SDAPCD expects to continue reductions through 2035 (SDAPCD 2016). These reductions were achieved through implementation of six VOC control measures and three NO<sub>x</sub> control measures adopted in the SDAPCD's 2009 RAQS (SDAPCD 2009a); in addition, the SDAPCD is considering additional measures, including three VOC measures and four control measures to reduce 0.3 daily tons of VOC and 1.2 daily tons of NO<sub>x</sub>, provided they are found to be feasible region-wide. In addition, SDAPCD has implemented nine incentive-based programs, has worked with SANDAG to implement regional transportation control measures, and has reaffirmed the state emission offset repeal<sup>1</sup>.

In regards to particulate matter emissions reduction efforts, in December 2005, the SDAPCD prepared a report titled "Measures to Reduce Particulate Matter in San Diego County" to address implementation of Senate Bill (SB) 656 in San Diego County (SB 656 required additional controls to reduce ambient concentrations of PM<sub>10</sub> and PM<sub>2.5</sub>) (SDAPCD 2005). In the report, SDAPCD evaluated implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion; various construction activities including earthmoving, demolition, and grading; bulk material storage and handling; carryout and trackout removal and cleanup methods; inactive disturbed land; disturbed open areas; unpaved parking lots/staging areas; unpaved roads; and windblown dust (SDAPCD 2005).

### **SDAPCD Rules and Regulations**

As stated above, the SDAPCD is responsible for planning, implementing, and enforcing federal and state ambient standards in the SDAB. The following rules and regulations apply to all sources in the jurisdiction of SDAPCD, and would apply to the proposed project:

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<sup>1</sup> The 2016 RAQS Revision includes a detailed reassessment and reaffirmation of the SDAPCD's previous findings that state emission offset requirements are not necessary for San Diego County to achieve and maintain the state ozone standards by the earliest practicable date.

**SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions.** Prohibits discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than 3 minutes in any period of 60 consecutive minutes that is darker in shade than that designated as Number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 1 on the Ringelmann Chart (SDAPCD 1997).

Construction of the proposed project may result in visible emissions, primarily during earth-disturbing activities, which would be subject to SDAPCD Rule 50. Although visible emissions are less likely to occur during operation of the proposed project, compliance with SDAPCD Rule 50 would be required during both construction and operational phases.

**SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance.** Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDAPCD 1967).

Any criteria air pollutant emissions, TAC emissions, or odors that would be generated during construction or operation of the proposed project would be subject to SDAPCD Rule 51. Violations can be reported to the SDAPCD in the form of an air quality complaint by telephone, email, or online form. Complaints are investigated by SDAPCD as soon as possible.

**SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust.** Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site (SDAPCD 2009b).

Construction of the proposed project, primarily during earth-disturbing activities, may result in fugitive dust emissions that would be subject to SDAPCD Rule 55. The proposed project would be required to limit fugitive dust emissions through a fugitive dust control plan, as outlined in Rule 55.<sup>2</sup> Fugitive dust emissions are not anticipated during operation of the proposed project.

**SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings.** Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015a). Construction and operation of the proposed project would include application of architectural coatings (e.g., paint and other finishes) that are subject to SDAPCD Rule 67.0.1. The proposed project would limit the VOC content for interior and exterior coatings during construction of the proposed project's residential and non-residential land uses to levels

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<sup>2</sup> Specific assumptions included in CalEEMod in compliance with Rule 55 are included in Appendix D1.

more restrictive than the VOC content limits identified in SDAPCD Rule 67.0.1. Architectural coatings used in the reapplication of coatings during operation of the proposed project would be subject to the VOC content limits identified in SDAPCD Rule 67.0.1, which applies to coatings manufactured, sold, or distributed within San Diego County.<sup>3</sup>

**SDAPCD Regulation XII: Toxic Air Contaminates; Rule 1200: Toxic Air Contaminants - New Source Review.** Requires new or modified stationary source units with the potential to emit TACs above rule threshold levels to either demonstrate that they will not increase the maximum incremental cancer risk above 1 in 1 million at every receptor location, or demonstrate that toxics best available control technology (T-BACT) will be employed if maximum incremental cancer risk is equal to or less than 10 in 1 million, or demonstrate compliance with SDAPCD’s protocol for those sources with an increase in maximum incremental cancer risk at any receptor location of greater than 10 in 1 million but less than 100 in 1 million (SDAPCD 2017a).

The proposed project does not propose specific stationary sources that would generate TACs that are not commonly associated with residential development projects. If stationary sources with the potential to emit TACs were to be included as part of the proposed project, or at a later date, those sources would be subject to SDAPCD Rule 1200, and would be subject to New Source Review requirements.

**SDAPCD Regulation XII: Toxic Air Contaminates; Rule 1210: Toxic Air Contaminant Public Health Risks – Public Notification and Risk Reduction.** Requires each stationary source that is required to prepare a public risk assessment to provide written public notice of risks at or above the following levels: maximum incremental cancer risks equal to or greater than 10 in 1 million, or cancer burden equal to or greater than 1.0, or total acute noncancer health hazard index equal to or greater than 1.0, or total chronic noncancer health hazard index equal to or greater than 1.0 (SDAPCD 2017b).

The proposed project does not propose specific stationary sources that would generate TACs. If stationary sources with the potential to emit TACs were to be included as part of the proposed project, or at a later date, those sources would be subject to SDAPCD Rule 1210, and would be subject to Public Notification and Risk Reduction requirements. The thresholds identified in Rule 1210 are used in this analysis as thresholds for the HRA, which are consistent with the SDAPCD HRA guidelines (SDAPCD 2015b).

### **San Diego Association of Governments**

SANDAG is the regional planning agency for San Diego County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SANDAG serves as the federally designated metropolitan planning organization for San Diego

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<sup>3</sup> Specific assumptions included in CalEEMod in compliance with Rule 67.0.1 are included in Appendix D1.

County. With respect to air quality planning and other regional issues, SANDAG has prepared *San Diego Forward: The Regional Plan* (Regional Plan) for the San Diego region (SANDAG 2015). The Regional Plan combines the big-picture vision for how our region will grow over the next 35 years with an implementation program to help make that vision a reality. The Regional Plan, including its Sustainable Communities Strategy (SCS), is built on an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system so that it meets the diverse needs of the San Diego region through 2050.

In regard to air quality, the Regional Plan sets the policy context in which SANDAG participates in and responds to the air district's air quality plans and builds off the air district's air quality plan processes that are designed to meet health-based criteria pollutant standards in several ways (SANDAG 2015). First, it complements air quality plans by providing guidance and incentives for public agencies to consider best practices that support the technology-based control measures in air quality plans. Second, the Regional Plan emphasizes the need for better coordination of land use and transportation planning, which heavily influences the emissions inventory from the transportation sectors of the economy. This also minimizes land use conflicts, such as residential development near freeways, industrial areas, or other sources of air pollution.

On September 23, 2016, SANDAG's Board of Directors adopted the final *2016 Regional Transportation Improvement Program* (RTIP). The 2016 RTIP is a multi-billion dollar, multi-year program of projects for major transportation projects in the San Diego region. Transportation projects supported through federal, state, and TransNet (the San Diego transportation sales tax program) funds must be included in an approved RTIP. The programming of locally funded projects also may be programmed at the discretion of the agency. The 2016 RTIP covers five fiscal years and incrementally implements the Regional Plan (SANDAG 2016).

### **City of Oceanside**

The City of Oceanside's (City's) General Plan includes various policies related to improving air quality (both directly and indirectly) (City of Oceanside 2002). Consistency with these policies are addressed in Section 4.11, Land Use and Planning. Applicable policies include the following:

#### **Land Use Element**

##### ***Bicycle Facilities***

**Policy A:** Development shall provide Class II Bikeways (Bike Lanes) on all secondary, major, and prime arterials.

**Policy B:** Collector streets which function as links for Bicycle Circulation System shall require Class II Bikeways (Bike Lanes). In such cases the City shall reduce hazards to cyclists on collector streets by eliminating on-street parking.

**Policy D:** The use of land shall integrate the Bicycle Circulation System with auto, pedestrian, and transit systems:

1. Development shall provide short-term bicycle parking and long-term bicycle storage facilities such as bicycle racks, pedestal posts, and rental bicycle lockers.
2. Development shall provide safe and convenient bicycle access to high activity land uses, such as schools, parks, shopping, employment, and entertainment centers.

### ***Pedestrian***

**Policy A:** The construction of five (5) foot wide sidewalks adjacent to the curb shall be required in all new developments and street improvements.

### ***Transit System***

**Policy A:** The City shall coordinate and encourage the existing bus system to serve newly developed areas.

**Policy B:** The City shall investigate the responsibilities of development in providing necessary on-site and off-site bus system improvements including bus shelters within new commercial, residential, and industrial developments.

### ***Energy***

**Policy A:** The City shall encourage the design, installation, and use of passive and active solar collection systems.

**Policy B:** The City shall encourage the use of energy efficient design, structures, materials, and equipment in all land developments or uses.

**Policy C:** The City shall encourage the use of long-term lower cost energy sources.

### ***Grading and Excavation***

**Policy A:** Investigation and evaluation of affected areas will indicate the measures to be included, such as the following measures:

1. Keep grading to a minimum; leave vegetation and soils undisturbed wherever possible.
2. Plant bare slopes and cleared areas with appropriate vegetation immediately after grading.
3. Chemically treat soils to increase and resistance to erosion.
4. Install retaining structures where appropriate.

5. Construct drainage systems to direct and control rate of surface runoff.
6. Construct silt traps and settling basins in drainage systems.
7. Construct weirs and check dams on streams.

### ***Circulation Element***

The City shall:

**Policy A:** Encourage the reduction of vehicle miles, reduction of the total number of daily and peak hour vehicle trips, and provide better utilization of the circulation system through development and implementation of Transportation Demand Management and Transportation System Management programs. These may include implementation of mandatory peak hour trip reduction, requirements for staggered work hours, telecommunication, increased development of employment centers where transit usage is highly viable, encouragement of ride sharing in the public and private sector, provision of park-and-ride facilities adjacent to the regional transportation system, and provision for transit subsidies.

**Policy B:** Maintain and implement the policies and recommendations of the Bicycle Master Plan as part of the Recreational Trails Element. These facilities shall connect residential areas with schools, parks, recreation areas, major employment centers, and neighborhood commercial areas.

**Policy C:** Maintain and implement the policies and recommendations of the Pedestrian Master Plan as part of the Recreational Trails Element to ensure pedestrian access along streets and other locations throughout the City are properly maintained and provided.

**Policy D:** Support parking policies that increase the cost of parking and/or reduce the supply of off-street parking to encourage drivers to consider using alternative modes of transportation or carpool/vanpool opportunities where transit facilities are available.

**Policy E:** Encourage businesses to offer financial incentives to use modes of transportation other than the single occupant vehicle by way of subsidized transit, carpool/vanpool programs, bike to work programs, parking cash-out programs, or some combination of these.

**Policy F:** Encourage new developments to provide on-site facilities such as showers, lockers, carpool stalls, and bicycle racks.

### ***Transportation Demand Management***

The City shall:

**Policy A:** Cooperate with the North County Transit District (NCTD) to attain a balance of transportation opportunities. This shall include the establishment of criteria to implement transportation improvements, short and long-range transit service plans, corridor improvements,

transit centers, park-and-ride lots with amenities for bicyclists, and the preservation of rights-of-way for commuter rail stations.

**Policy B:** The City shall require developers to construct, where appropriate, transit facilities when their development is on a transit service route including bus stop amenities to include lighted shelters, benches, and route information signs (where appropriate) through coordination with NCTD.

**Policy C:** Work with the NCTD to assure that transit centers and major stops have adequate bicycle and pedestrian access, including secure bicycle storage. The City shall continue to work with NCTD to encourage more bus services that accommodate bicycles.

**Policy D:** Encourage, in coordination with the NCTD, the utilization of the multi-modal transit center by coordinating bus routes and requiring, when applicable, shuttle services to major employment centers. Improved information signage giving directions to the transit center should be a main objective for the Coast Highway and other area thoroughfares.

### ***Bicycle Facilities***

The City shall:

**Policy A:** Integrate bicycle and pedestrian planning and safety considerations more fully into the planning and design of the roadway network, transit facilities, public buildings, and parks.

**Policy B:** Provide and maintain a safe, direct, and comprehensive bicycle network connecting neighborhoods, employment locations, public facilities, transit stations, parks and other key destinations.

**Policy C:** Plan Class II bicycle lanes into all prime arterial, major arterials, and secondary collectors where safe and appropriate as determined by City staff.

**Policy D:** Encourage large new developments to be designed with features such as secure bicycle parking and lockers, bike racks, shower facilities, and other amenities that accommodate bicycle users.

### ***Pedestrian Facilities***

The City shall:

**Policy A:** Require the construction of a minimum five-foot wide sidewalk in all new developments and street improvements but will encourage sidewalk widths that go beyond the minimum five-foot ADA standards in areas with high pedestrian activity.

**Policy B:** Encourage the inclusion of public walkways, open space, or trails for pedestrian usage in large, private developments.

**Policy C:** Work with NCTD to provide accessible pedestrian facilities at transit stations and bus stops.

### **4.3.3 Thresholds of Significance**

The significance criteria used to evaluate the project impacts to air quality are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to air quality would occur if the proposed project would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3. Result in a cumulatively considerable new increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative threshold emissions which exceed quantitative thresholds for ozone precursors).
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or pollution control district may be relied upon to determine whether the proposed project would have a significant impact on air quality.

As part of its air quality permitting process, the SDAPCD and the County of San Diego has established thresholds in Rule 20.2 requiring the preparation of Air Quality Impact Assessments (AQIA) for permitted stationary sources (SDAPCD 2016b). The SDAPCD sets forth quantitative emission thresholds below which a stationary source would not have a significant impact on ambient air quality. Although these trigger levels do not generally apply to mobile sources or general land development projects, for comparative purposes, these levels may be used to evaluate the increased emissions which would be discharge to the SDAB from proposed land development projects (County of San Diego 2007). Proposed-project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 4.3-4, SDAPCD Air Quality Significance Thresholds, are exceeded.

**Table 4.3-4  
SDAPCD Air Quality Significance Thresholds**

<b>Construction Emissions</b>			
<i>Pollutant</i>	<i>Total Emissions (Pounds per Day)</i>		
Respirable Particulate Matter (PM <sub>10</sub> )	100		
Fine Particulate Matter (PM <sub>2.5</sub> )	55		
Oxides of Nitrogen (NO <sub>x</sub> )	250		
Oxides of Sulfur (SO <sub>x</sub> )	250		
Carbon Monoxide (CO)	550		
Volatile Organic Compounds (VOC)	75*		
<b>Operational Emissions</b>			
<i>Pollutant</i>	<i>Total Emissions</i>		
	<i>Pounds per Hour</i>	<i>Pounds per Day</i>	<i>Tons per Year</i>
Respirable Particulate Matter (PM <sub>10</sub> )	—	100	15
Fine Particulate Matter (PM <sub>2.5</sub> )	—	55	10
Oxides of Nitrogen (NO <sub>x</sub> )	25	250	40
Sulfur Oxides (SO <sub>x</sub> )	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	—	3.2	0.6
Volatile Organic Compounds (VOC)	—	75*	13.7

**Sources:** SDAPCD Rules 1501 (SDAPCD 1995) and 20.2(d)(2) (SDAPCD 2016b).

\* VOC threshold based on the threshold of significance for VOCs from the South Coast Air Quality Management District for the Coachella Valley as stated in the San Diego County Guidelines for Determining Significance.

The thresholds listed in Table 4.3-4 represent screening-level thresholds that can be used to evaluate whether proposed-project-related emissions could cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. The emissions-based thresholds for O<sub>3</sub> precursors are intended to serve as a surrogate for an “O<sub>3</sub> significance threshold” (i.e., the potential for adverse O<sub>3</sub> impacts to occur). This approach is used because O<sub>3</sub> is not emitted directly on O<sub>3</sub> levels in ambient air cannot be determined through air quality models or other quantitative methods. For nonattainment pollutants, if emissions exceed the thresholds shown in Table 4.3-4, the proposed project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality.

With respect to odors, SDAPCD Rule 51 (Public Nuisance) prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

### 4.3.4 Impacts Analysis

#### *Would the project conflict with or obstruct implementation of the applicable air quality plan?*

As mentioned in Section 4.3.2, the SDAPCD and SANDAG are responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in the basin—specifically, the SIP and RAQS.<sup>4</sup> The federal O<sub>3</sub> maintenance plan, which is part of the SIP, was adopted in 2012. The most recent O<sub>3</sub> attainment plan contained in the RAQS, was adopted in 2016. The SIP includes a demonstration that current strategies and tactics will maintain acceptable air quality in the basin based on the NAAQS. The RAQS was initially adopted in 1991 and is updated on a triennial basis (most recently in 2016). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O<sub>3</sub>. The SIP and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions as well as information regarding projected growth in the County as a whole and the cities in the County, to project future emissions and determine the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans.

If a project proposes development that is greater than that anticipated in the local plan and SANDAG's growth projections, the proposed project might be in conflict with the SIP and RAQS and may contribute to a potentially significant cumulative impact on air quality. According to the City's land use map and zoning map (City of Oceanside 1992), the project site has a designation of Agricultural (A) and is zoned as Agricultural (A) in the portion north of N. River Road and is zoned as Agricultural-Scenic Park (A-SP) in the portion south of N. River Road. The purpose of A districts are to allow for large-scale agriculture and mining operations, only permitting low-density residential development associated with the low-intensity agriculture, while the purpose of SP districts are to conserve and protect and preserve valuable natural resources of recreational and scenic areas in and adjacent to public parks. These designations do not allow for the development of residential uses or a mix of land uses as are proposed under the proposed project. The proposed project would require a Zoning Ordinance Amendment that will change the project site to Planned Development (PD). The PD designation would allow for the project site to be developed with a several land uses including residential, commercial, mixed use, recreational, and agriculture.

While the SDAPCD and City do not provide guidance regarding the analysis of impacts associated with air quality plan conformance, the County's *Guidelines for Determining Significance and*

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<sup>4</sup> For the purpose of this discussion, the relevant federal air quality plan is the ozone maintenance plan (SDAPCD 2012). The RAQS is the applicable plan for purposes of state air quality planning. Both plans reflect growth projections in the basin.

*Report and Format and Content Requirements – Air Quality* do discuss conformance with the RAQS (County of San Diego 2007). The guidance indicates that if a project, in conjunction with other projects, contributes to growth projections that would not exceed SANDAG’s growth projections for the City, the proposed project would not be in conflict with the RAQS (County of San Diego 2007). As previously discussed, the proposed project would require a zoning amendment in order to allow the land uses proposed, and therefore, the proposed project would contribute to additional unaccounted for growth to the region.

The County’s guidance also indicates that, in the event that a project requires a general plan amendment, additional analysis may still provide substantial evidence that the growth is accounted for in the RAQS assumptions. To demonstrate conformance in this case, a growth projection analysis can be completed for the applicable Subregional Area (SRA) and/or Metropolitan Statistical Area (MSA) by comparing the SANDAG growth projections with the actual development expected to occur. If the proposed project in conjunction with other projects, contributes to growth projections that would not exceed SANDAG’s growth projections for that SRA or MSA, the proposed project would not be in conflict with the RAQS or SIP.

The proposed project is located within SRA 42 – Oceanside, which includes the City in its entirety. SANDAG’s population estimate for this SRA in 2012 (the closest year SANDAG has available data to 2012 when the most recent RAQS was adopted) was 161,221, and the forecasted population in 2020 (the closest year SANDAG has available data to a project buildout of 2025) is 170,543. Therefore, SANDAG’s projections anticipated approximately 9,322 new residents in this SRA over an 8-year period. Because the western portion of SRA 42 is essentially built out, the anticipated growth would occur almost exclusively in the eastern portion of the City.

The addition of 689 residential units (approximately 1,971<sup>5</sup> new residents) to the SRA as a result of the proposed project would be accommodated in the population forecast used to prepare the 2016 RAQS. While the proposed project was not included in the underlying growth estimates for the SDAB used as the basis for the SIP and RAQS update, it would not conflict with or obstruct implementation of the SIP or RAQS because the SANDAG population projections for SRA 42 would accommodate more growth (9,322 new residents) than that associated with the proposed project (1,971 residents). It should be noted that projects presented in Section 5, Cumulative Effects, have been accounted for in the SIP and RAQS. Additionally, future projects would also be required to undergo environmental review to assess whether their population growth would conflict with future revisions to the SIP or RAQS. Because the growth forecasts and development assumptions upon which the SIP and RAQS are based would not be exceeded, the proposed project would not conflict with or obstruct implementation of the applicable air quality plan and impacts would be less than significant.

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<sup>5</sup> Number of residents based on the City’s average household size of 2.86 persons per dwelling unit (SANDAG 2017a).

*Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

### Construction Emissions

Construction of the proposed project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (worker vehicle trips). Specifically, implementation of the proposed project would generate air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, architectural coating, and asphalt pavement application. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM<sub>10</sub> and PM<sub>2.5</sub> emissions. Exhaust from internal combustion engines used by construction equipment and worker vehicles would result in emissions of VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. The application of architectural coatings and asphalt pavement would also produce VOC emissions. Construction emissions can vary substantially day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions.

The proposed project would grade approximately 155 acres of the 176.6-acre site. Cut-and-fill quantities would be balanced on site and no external soil export would be required. Soil balance would occur within each subset area and hauling would not be required between subset areas. A total of approximately 1,040,200 cubic yards of cut and fill would occur within the site. Balancing activities are anticipated to be performed through the use of off-road construction equipment (e.g., excavators, graders, dozers, and scrapers). The analysis contained herein is based on the assumptions outlined in Table 4.3-5 (duration of phases is approximate).

**Table 4.3-5  
Construction Phasing Assumptions**

Proposed Project Construction Phase	Construction Start Month/Year	Construction End Month/Year
Demolition	06/2019	07/2019
Site Preparation	07/2019	08/2019
Grading	08/2019	03/2020
Paving	03/2020	09/2020
Building Construction	08/2020	08/2024
Architectural Coating	08/2022	08/2024

Source: Appendix D1.

The construction equipment mix used for estimating the construction emissions of the proposed project is based on information provided by the applicant and/or default values presented in California Emissions Estimator Model (CalEEMod) and is shown in Table 4.3-6.

**Table 4.3-6  
Construction Scenario Assumptions**

Construction Phase	One-way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Demolition	15	0	145	Concrete/Industrial Saws	1	8
				Excavators	3	8
				Rubber Tired Dozers	2	8
Site Preparation	18	0	0	Rubber Tired Dozers	3	8
				Tractors/Loaders/Backhoes	4	8
Grading	20	0	0	Excavators	2	8
				Graders	1	8
				Rubber Tired Dozers	1	8
				Scrapers	2	8
				Tractors/Loaders/Backhoes	2	8
Paving	15	0	0	Pavers	2	8
				Paving Equipment	2	8
				Rollers	2	8
Building Construction	96	183	0	Cranes	1	7
				Forklifts	3	8
				Generator Sets	1	8
				Tractors/Loaders/Backhoes	3	7
				Trenchers	1	8
Architectural Coating	20	0	0	Welders	1	8
				Air Compressors	1	6

Source: Appendix D1.

Construction phasing specifications were provided by the applicant, while the default values generated by CalEEMod were used for the construction equipment mix. This equipment mix accounts for both on-site construction equipment and construction equipment required for off-site improvements. For the analysis, it was generally assumed that heavy construction equipment would be operating both on the project site and at the off-site improvement areas for approximately 8 hours per day, 5 days per week (22 days per month) during project construction. CalEEMod defaults were applied for the worker, haul, and vendor trips (CAPCOA 2017).

Criteria air pollutant emissions associated with construction activity were quantified using CalEEMod. Default values provided by CalEEMod were used where detailed proposed project information was not available. A detailed depiction of the construction schedule—including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles—is included in Appendix D1.

Implementation of the proposed project would generate air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, architectural coating, and asphalt pavement application. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM<sub>10</sub> and PM<sub>2.5</sub> emissions. The proposed project is subject to SDAPCD Rule 55, Fugitive Dust Control. This rule requires that the proposed project take steps to restrict visible emissions of fugitive dust beyond the property line. Compliance with Rule 55 would limit fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) generated during grading and construction activities. To account for dust control measures in the calculations, it was assumed that the active sites would be watered at least three times daily, resulting in an approximately 61% reduction of particulate matter. Blasting activities are not anticipated for the project and are not accounted for in this analysis.

Exhaust from internal combustion engines used by construction equipment and worker vehicles would result in emissions of VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. The application of architectural coatings and asphalt pavement would also produce VOC emissions.

Table 4.3-7 shows the estimated maximum daily construction emissions associated with the construction of the proposed project without mitigation. Complete details of the emissions calculations are provided in Appendix D1.

**Table 4.3-7**  
**Estimated Maximum Daily Construction Criteria Air Pollutant Emissions**

Year	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>Pounds per Day</i>					
2019	4.83	54.58	34.00	0.06	9.59	6.11
2020	5.93	57.97	42.94	0.11	5.98	3.45
2021	3.24	39.79	26.86	0.09	4.86	2.13
2022	48.97	38.25	28.47	0.09	4.93	2.10
2023	48.66	33.00	27.66	0.09	4.78	1.95
2024	48.51	31.69	27.27	0.09	4.68	1.85
<b>Maximum Daily Emissions</b>	<b>48.97</b>	<b>57.97</b>	<b>42.94</b>	<b>0.11</b>	<b>9.59</b>	<b>6.11</b>
<i>SDAPCD Threshold</i>	75	250	550	250	100	55
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

**Source:** See Appendix D1.

**Notes:** The values shown are the maximum summer or winter daily emissions results from CalEEMod. These emissions reflect CalEEMod "mitigated" output, which accounts for compliance with SDAPCD Rule 55 (Fugitive Dust).

VOC = volatile organic compound; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = fine particulate matter; SDAPCD = San Diego Air Pollution Control District.

As shown in Table 4.3-7, daily construction emissions would not exceed the significance thresholds for any criteria air pollutant. Therefore, impacts during construction would be less than significant.

## Operational Emissions

The proposed project involves the development of 689 residential dwelling units, community agriculture, and a Village Core, which will include a boutique hotel, various shops, and a restaurant. Operation of the proposed project would generate VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from mobile sources, including vehicle trips; area sources, including the use of consumer products, natural gas hearths, and landscape maintenance equipment; and energy sources. Pollutant emissions associated with long-term operations were quantified using CalEEMod. Proposed project-generated mobile source emissions were estimated in CalEEMod based on proposed project-specific trip rates and trip lengths. CalEEMod default values were used, with the exception to energy and water use, to estimate emissions from the project site and energy sources. Energy use estimates for the community swimming pool was calculated outside of CalEEMod in a spreadsheet based model, which is based on CalEEMod default emission factors and natural gas energy intensity for residential and non-residential land uses.

CalEEMod was used to estimate operational emissions from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating and water heating are calculated in the building energy use module of CalEEMod. Refer to Appendix D1 for complete details regarding area source methodology.

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for greenhouse gases in CalEEMod, because criteria pollutant emissions occur at the site of the power plant, which is typically off site. The proposed project would include a private swimming pool located in River Village Park with an approximate size of 127,908 gallons. Energy demand for swimming pools was estimated using a baseline demand in the SDG&E service area (SCE 2016).

The proposed project would incorporate solar photovoltaic (PV) panels on all residential units and non-residential uses in order to offset the energy use. It was estimated that 1.81 megawatts (MW) of PV panels would be required to offset electrical energy consumption from residential uses (Appendix D2). Further, approximately 0.44 MW of panels would be installed to offset the energy use from non-residential uses.

For non-residential buildings, CalEEMod default values for each land use were updated to reflect the annual electrical consumption provided in the PV Loads Report (Appendices D1 and D2). An energy intensity rate for each category (e.g., Title 24 electricity, Non-Title 24 electricity, lighting electricity) was calculated from the total energy consumption from the PV Loads Report, using the default proportions in CalEEMod to allocate the appropriate

energy consumption rate for each land use type. Similarly, the CalEEMod default energy intensity rates for residential uses were updated to reflect the Proposed Project’s annual electricity consumption. Overall, residential and non-residential energy consumption would be offset through the installation of 2.25 MW of PV panels. The residential and non-residential energy use rates input into CalEEMod are presented in Table 4.3-8.

**Table 4.3-8**  
**Energy Use Rates**

Land Use	Title 24 Electricity	Non-Title 24 Electricity	Lighting Electricity
	<i>kWh per unit per year</i>		
Retail	1.24	1.23	2.43
Restaurant	5.02	14.45	4.14
Hotel	3.14	2.41	2.96
Apartment Low-Rise	141.68	2,366.28	624.21
Condo/Townhouse	185.50	3,449.26	901.45
Single-Family Housing	190.92	3,550.02	927.78

Source: Appendix D2.

Notes: kWh = kilowatt hour.

To quantify emissions associated with project operational mobile sources, trip generation rates and trip lengths for each analyzed project land use were adjusted in CalEEMod to match the overall weekday daily trips and the total average daily vehicle miles traveled (VMT) length data provided in the proposed project’s Transportation Impact Analysis (Appendix N).

Table 4.3-9 presents the maximum daily area, energy, and mobile source emissions associated with operation (Year 2025) of the proposed project. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix D1.

**Table 4.3-9**  
**Estimated Maximum Daily Operational Criteria Air Pollutant Emissions**

Emission Source	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>Pounds per Day</i>					
Area	35.30	10.94	61.23	0.07	1.15	1.15
Energy	0.21	1.81	0.77	0.01	0.15	0.15
Mobile	12.30	48.25	151.13	0.59	57.55	15.67
<b>Total</b>	<b>47.81</b>	<b>61.00</b>	<b>213.13</b>	<b>0.67</b>	<b>58.85</b>	<b>16.97</b>
<i>SDAPCD Threshold</i>	<i>75</i>	<i>250</i>	<i>550</i>	<i>250</i>	<i>100</i>	<i>55</i>
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: See Appendix D1.

**Notes:** Emissions were modeled with CalEEMod and are based on the “Mitigated” CalEEMod outputs. Additionally, a project setting of Suburban Center and Increase Diversity were selected in CalEEMod to account for a 5% mixed use reduction based on the trip reduction from the Traffic Impact Analysis (Appendix N).

VOC = volatile organic compound; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = fine particulate matter; SDAPCD = San Diego Air Pollution Control District.

As shown in Table 4.3-9, the combined daily area, energy, and mobile source emissions would not exceed the operational thresholds for VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. Impacts associated with proposed project-generated operational criteria air pollutant emissions would be less than significant.

***Would the project result in a cumulatively considerable new increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative threshold emissions which exceed quantitative thresholds for ozone precursors)?***

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SDAPCD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project’s individual emissions would have a cumulatively significant impact on air quality. As described previously, the proposed project would have a less-than-significant impact for short-term construction and long-term operations.

The SDAB is a nonattainment area for O<sub>3</sub> under the NAAQS and CAAQS. The poor air quality in the SDAB is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (i.e., VOCs and NO<sub>x</sub> for O<sub>3</sub>). In analyzing cumulative impacts from a project, the analysis must specifically evaluate the proposed project’s contribution to the cumulative increase in pollutants for which the basin is designated as nonattainment for the CAAQS and NAAQS. If the proposed project does not exceed thresholds and is determined to have less than significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the proposed project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, a project would only be considered to have a significant cumulative impact if the proposed project’s contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a “cumulatively considerable contribution” to the cumulative air quality impact).

Additionally, for the basin, the RAQS serves as the long-term regional air quality planning document for the purpose of assessing cumulative operational emissions in the basin to ensure the SDAB continues to make progress toward NAAQS- and CAAQS-attainment status. As such, cumulative projects located in the San Diego region would have the potential to result in a

cumulative impact to air quality if, in combination, they would conflict with or obstruct implementation of the RAQS. Similarly, individual projects that are inconsistent with the regional planning documents upon which the RAQS is based would have the potential to result in cumulative operational impacts if they represent development and population increases beyond regional projections.

The SDAB has been designated as a federal nonattainment area for O<sub>3</sub> and a state nonattainment area for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the basin. As discussed previously, the proposed project would not exceed significance thresholds during construction or operation. As such, the proposed project would result in less-than-significant impacts to air quality relative to emissions.

Regarding long-term cumulative operational emissions in relation to consistency with local air quality plans, the SIP and RAQS serve as the primary air quality planning documents for the state and SDAB, respectively. The SIP and RAQS rely on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and the County as part of the development of their general plans. Therefore, projects that propose development that is consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS and would not be considered to result in cumulatively considerable impacts from operational emissions. As stated previously, the proposed project would be consistent with the growth assumptions for the region and would not result in significant regional growth that is not accounted for within the RAQS. As a result, the proposed project would not result in a cumulatively considerable contribution to regional O<sub>3</sub> concentrations or other criteria pollutant emissions. Cumulative impacts would be less than significant during operation.

***Would the project expose sensitive receptors to substantial pollutant concentrations?***

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion. Reduced visibility, eye irritation, and adverse health impacts upon those persons termed “sensitive receptors” are the most serious hazards of existing air quality conditions in the area. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. Sensitive receptors include residences, schools, playgrounds, child-care centers, athletic facilities, long-term health-care facilities, rehabilitation centers, convalescent centers, and retirement homes. The closest sensitive receptors (single-family residences) are located along the proposed project’s western boundary. Del Rio Elementary School and the Melba Bishop Recreation Center are located approximately 0.19 mile west of the project site. In addition, the proposed project would result in the development of residences, which would be considered sensitive receptors.

Table 4.3-10 presents a list of the criteria pollutants and other related pollutants of concern, emission sources, associated health effects, and current SDAB attainment status.

**Table 4.3-10  
Pollutants, Sources, Health Effects, and Attainment Status**

Pollutant	Sources	Health Effects	Attainment Status	
			NAAQS	CAAQS
O <sub>3</sub>	Formed when VOCs and NO <sub>x</sub> react in the presence of sunlight. VOC sources include any source that burns fuels (e.g., gasoline, natural gas, wood, oil); solvents; petroleum processing and storage.	Breathing difficulties, lung tissue damage, vegetation damage, damage to rubber and some plastics.	Nonattainment	Nonattainment
PM <sub>10</sub>	Road dust, windblown dust, agriculture and construction, fireplaces. Also formed from other pollutants (NO <sub>x</sub> , SO <sub>x</sub> , organics). Incomplete combustion.	Increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling.	Unclassifiable/Attainment	Nonattainment
PM <sub>2.5</sub>	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning. Also formed from reaction of other pollutants (NO <sub>x</sub> , SO <sub>x</sub> , organics, and NH <sub>3</sub> ).	Increases respiratory disease, lung damage, cancer, and premature death, reduced visibility, surface soiling. Particles can aggravate heart diseases such as congestive heart failure and coronary artery disease	Unclassifiable/Attainment	Nonattainment
CO	Any source that burns fuel such as automobiles, trucks, heavy construction and farming equipment, residential heating.	Chest pain in heart patients, headaches, reduced mental alertness.	Attainment	Attainment
NO <sub>2</sub>	See carbon monoxide.	Lung irritation and damage. Reacts in the atmosphere to form ozone and acid rain.	Unclassifiable/Attainment	Attainment
Lead	Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint.	Learning disabilities, brain and kidney damage.	Unclassifiable/Attainment	Attainment
SO <sub>2</sub>	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Unclassifiable/Attainment	Attainment
Sulfates	Produced by reaction in the air of SO <sub>2</sub> , (see SO <sub>2</sub> sources), a component of acid rain.	Breathing difficulties, aggravates asthma, reduced visibility.	(no federal standard)	Attainment
Hydrogen Sulfide	Geothermal power plants, petroleum production and refining, sewer gas.	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations).	(no federal standard)	Unclassified
Visibly Reducing Particles	See PM <sub>2.5</sub>	Reduced visibility (e.g., obscures mountains and other scenery), reduced airport safety.	(no federal standard)	Unclassified

**Table 4.3-10  
Pollutants, Sources, Health Effects, and Attainment Status**

Pollutant	Sources	Health Effects	Attainment Status	
Vinyl Chloride	Exhaust gases from factories that manufacture or process vinyl chloride (construction, packaging, and transportation industries)	Central nervous system effects (e.g., dizziness, drowsiness, headaches), kidney irritation, liver damage, liver cancer.	N/A	N/A
TAC	Combustion engines (stationary and mobile), diesel combustion, storage and use of TAC-containing substances (i.e., gasoline, lead smelting, etc.)	Depends on TAC, but may include cancer, mutagenic and/or teratogenic effects, other acute or chronic health effects	N/A	N/A

**Source:** County of San Diego 2007 (pollutant descriptions); EPA 2016a (federal); CARB 2016a (state).

O<sub>3</sub> = ozone; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = fine particulate matter; CO = carbon monoxide; NO<sub>2</sub> = nitrogen dioxide; SO<sub>2</sub> = sulfur dioxide; TAC = toxic air contaminant

### Health Impacts of Toxic Air Contaminants

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state and federal government as TACs or hazardous air pollutants. State law has established the framework for California’s TAC identification and control program, which is generally more stringent than the federal program and aimed at TACs that are a problem in California. The state has formally identified more than 200 substances as TACs, including the federal hazardous air pollutants, and is adopting appropriate control measures for sources of these TACs. The greatest potential for TAC emissions during construction would be DPM emissions from heavy equipment operations and heavy-duty trucks and the associated health impacts to sensitive receptors. The following measures are required by state law to reduce DPM emissions: Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-Use Off-Road Diesel Vehicles (13 CCR 2449), the purpose of which is to reduce DPM and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles.

As a precautionary measure, an HRA was performed to assess the impact of construction on sensitive receptors proximate to the proposed project. Appendix D1 includes an HRA associated with emissions from construction of the proposed project based on the methodologies prescribed in the Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015). To implement the OEHHA Guidelines based on project information, the SDAPCD has developed a three-tiered approach where each successive tier is progressively more refined, with fewer conservative assumptions. The SDAPCD *Supplemental Guidelines for Submission of Air Toxics “Hot Spots” Program Health Risk Assessments* provides guidance with which to perform HRAs within the SDAB (SDAPCD 2015b).

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SDAPCD recommends a carcinogenic (cancer) risk threshold of 10 in 1 million. Additionally, some TACs increase non-cancer health risk due to long-term (chronic) exposures. The Chronic Hazard Index is the sum of the individual substance chronic hazard indices for all TACs affecting the same target organ system. The SDAPCD recommends a Chronic Hazard Index significance threshold of 1.0 (project increment). The exhaust from diesel engines is a complex mixture of gases, vapors, and particles, many of which are known human carcinogens. DPM has established cancer risk factors and relative exposure values for long-term chronic health hazard impacts. No short-term, acute relative exposure level has been established for DPM; therefore, acute impacts of DPM are not addressed in this assessment. This HRA evaluated the risk to existing residents from diesel emissions from exhaust from on-site construction equipment and diesel haul and vendor trucks.

The dispersion modeling of DPM was performed using the American Meteorological Society/EPA Regulatory Model (AERMOD), which is the model SDAPCD requires for atmospheric dispersion of emissions. AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain (EPA 2015). For the proposed project, AERMOD was run with all sources emitting unit emissions (1 gram per second) to obtain the “X/Q” values. X/Q is a dispersion factor that is the average effluent concentration normalized by source strength and is used as a way to simplify the representation of emissions from many sources. The X/Q values of ground-level concentrations were determined for construction emissions using AERMOD and the maximum concentrations determined for the 1-hour and period averaging periods. Principal parameters of this modeling are presented in Table 4.3-11.

**Table 4.3-11**  
**AERMOD Principal Parameters**

Parameter	Details
Meteorological Data	The latest 3-year meteorological data (2010–2012) for the Camp Pendleton (Station ID 3177) from SDAPCD were downloaded and then input to AERMOD. For cancer or chronic noncancer risk assessments, the average cancer risk of all years modeled was used.
Urban versus Rural Option	Urban areas typically have more surface roughness, as well as structures and low-albedo surfaces that absorb more sunlight—and thus more heat—relative to rural areas. However, based on the SDAPCD guidelines, the rural dispersion option was selected due to the proposed project's proximity to the ocean.
Terrain Characteristics	The terrain in the vicinity of the modeled proposed project site is generally flat. The elevation of the modeled site is approximately 200 feet above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate (NED 1/3 – 10 meter resolution).
Emission Sources and Release Parameters	Air dispersion modeling of DPM emissions was conducted assuming the equipment would operate in accordance with the modeling scenario estimated in CalEEMod (Appendix D1). The DPM emissions were modeled as a series of volume sources.
Source Release Characterizations	For modeling construction emissions dispersion using AERMOD, it was assumed that the total site area would operate in accordance with the respective construction schedules. A unit emission rate of 1.0 gram per second was normalized over the number of volume sources for each AERMOD run.

**Table 4.3-11  
AERMOD Principal Parameters**

Parameter	Details
Discrete Receptors	A uniform Cartesian grid was placed over the project site with 20-meter spacing (2,700 meters by 2,700 meters) and converted into discrete Cartesian receptors to represent existing sensitive receptors adjacent to the site.

**Note:** See Appendix D1.

Dispersion model plotfiles from AERMOD were then imported into CARB’s Hotspots Analysis and Reporting Program Version 2 to determine health risk, which requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source. For the residential health risk, the HRA assumes exposure would start in the third trimester of pregnancy.

“Incremental cancer risk” is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period would contract cancer based on the use of standard OEHHA risk assessment methodology (OEHHA 2015). In addition, some TACs have non-carcinogenic effects. TACs that would potentially be emitted during construction activities would be DPM emitted from heavy-duty construction equipment and heavy-duty trucks. Heavy-duty construction equipment and diesel trucks are subject to CARB ATCMs to reduce DPM emissions. According to the OEHHA, HRAs should be based on a 30-year exposure duration based on typical residency period; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2015). Thus, the duration of proposed construction activities (approximately 5 years for the proposed project) would only constitute a small percentage of the total long-term exposure period and would not result in exposure of proximate sensitive receptors to substantial TACs. After construction is completed there would be no long-term source of TAC emissions during operation. The results of the HRA for project construction is summarized in Table 4.3-12.

**Table 4.3-12  
Construction Activity Health Risk Assessment Results – Unmitigated**

Impact Parameter	Units	Project Impact	Recommended Threshold	Level of Significance
<i>Proposed Project</i>				
MICR – Residential Off Site	Per million	<b>28.28</b>	10.0	<b>Potentially Significant</b>
HIC – Off Site	Not applicable	0.01	1.0	Less than significant

**Sources:** Appendix D1.

**Notes:** MICR = Maximum Individual Cancer Risk; HIC = Chronic Hazard Index

The results of the HRA demonstrate that the TAC exposure from construction diesel exhaust emissions would result in cancer risk on site above the 10 in 1 million threshold for the proposed project. The Chronic Hazard Index for the proposed project would be less than 1. Therefore, TAC emissions from

construction activities of the proposed project may expose sensitive receptors to substantial pollutant concentrations and would result in a potentially significant impact; therefore, mitigation is required.

### **Health Impacts from Valley Fever Exposure**

As discussed in detail in Appendix D1, Valley Fever is not highly endemic to San Diego County and within San Diego County the incident rate on the project site is below the County average as well as the statewide average. The proposed project would be consistent with SDAPCD Rule 55, which limits the amount of fugitive dust generated during construction and would also control the release of the *Coccidioides immitis* fungus from construction activities by watering three times per day and limiting speed on unpaved roads to 15 miles per hour. The nearest existing off-site sensitive-receptor land uses includes existing residences, Del Rio Elementary School and the Melba Bishop Recreation Center, which are located to the west of the project site.

Because the proposed project's previous uses include agriculture operations, it is quite possible that the local sensitive receptors near the project site have already been exposed to Valley Fever simply by living in the region. Based on the low incidence rate of Coccidioidomycosis on the project site and in greater San Diego County, and the proposed project's implementation of dust control strategies, it is not anticipated that earthmoving activities during proposed project construction would result in exposure of nearby sensitive receptors to Valley Fever. Therefore, the proposed project would have a less-than-significant impact with respect to Valley Fever exposure to sensitive receptors.

### **Health Impacts from Agriculture Operations**

Approximately 31.6 acres would be dedicated to agriculture throughout the project site as shown on Figure 3-3. The proposed agricultural land uses would include a community garden, agricultural trails, production agriculture, and agritourism, as described in Chapter 3, Project Description. The closest sensitive receptors (single-family residences) are located along the proposed project's western boundary. Del Rio Elementary School and the Melba Bishop Recreation Center are located approximately 0.19 mile west of the project site. In addition, the proposed project would result in the development of residences, which would be considered sensitive receptors. The closest agricultural uses to off-site sensitive receptors would be the community garden and production agriculture. On-site receptors would be proximate to all agricultural land uses. Agricultural operations proposed by the proposed project could require the application of synthetic chemicals such as fertilizers, pesticides, and herbicides. However, the application of individual pesticides is regulated by Title 3, Division 6, of the California Code of Regulations (CCR). Synthetic chemicals can only be applied during periods of calm weather conditions. The code also prohibits the application of synthetic chemicals when there is a reasonable possibility of contamination of persons not involved in the application process.

The proposed project would also be required to comply with recent amendments to Title 3, Division 6, of the CCR adopted by the California Department of Pesticide Regulation (DPR) in effect as of January 1, 2018. DPR 16-004, Pesticide Use Near School Sites requires that growers notify public schools, child day care facilities, and the County's Agricultural Commissioner when certain pesticide applications made for the production of an agriculture commodity near a school site are planned in the coming year and in days prior to application. Certain pesticide applications near school sites are also prohibited at certain times.

San Diego County is the entity responsible for enforcing and monitoring pesticide application. Farms are required to register the type and amount of pesticides they use for their crops with the County's Agricultural Commissioner's Office. Normal project-related use could result in some off-site movement, which occurs with every application; however, the application of synthetic chemicals are regulated in order to minimize spray drift affecting nearby residents and/or employees on the project site. Furthermore, the proposed project would implement natural growing methods and permaculture techniques, which would avoid the likelihood of exposure to the community and surrounding area. Therefore, the proposed project would have a less-than-significant impact in regards to exposing sensitive receptors to synthetic chemicals from agricultural operations.

### **Health Impacts of Carbon Monoxide**

Mobile-source impacts occur on two basic scales of motion. Regionally, proposed project - related travel will add to regional trip generation and increase the VMT within the local airshed and the SDAB. Locally, proposed project traffic will be added to the City's roadway system. If such traffic occurs during periods of poor atmospheric ventilation, consists of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and operates on roadways already crowded with non-project traffic, there is a potential for the formation of microscale CO "hotspots" in the area immediately around points of congested traffic. Because of continued improvement in mobile emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the basin is steadily decreasing.

As the City does not have CO hotspots guidelines the County of San Diego's Guidelines (County of San Diego 2007) CO hotspot screening guidance was followed to determine if the proposed project would require a site-specific hotspot analysis. The County recommends that a local CO hotspot analysis be conducted if the intersection meets one of the following criteria: (1) the proposed project causes road intersections to operate at level of service (LOS) E or worse and where peak-hour trips exceeds 3,000 trips, or (2) the proposed project causes road intersections to operate at LOS E or worse and under cumulative conditions when the addition of peak-hour trips from the proposed project and the surrounding project exceeds 2,000 trips. The screening evaluation is included as Appendix D1. If the screening criteria are exceeded, additional site-specific analyses are performed to determine whether a project would result in a significant impact.

A Transportation Impact Analysis (Appendix N) was prepared for the proposed project and evaluated whether there would be a decrease in the LOS (e.g., congestion) at the intersections affected by the proposed project. The proposed project’s traffic analysis evaluated 23 intersections based on existing traffic volumes and current street geometry. As shown in Appendix D1, one of the key study intersections would operate at LOS E or worse due to the proposed project and would operate at greater than 2,000 peak hour trips in the cumulative scenario, according to the criteria above:

1. N. River Road and College Boulevard (LOS E in the AM)

The remaining key intersections operate at an acceptable LOS during the AM and PM peak hours in the scenarios evaluated.

Based on the CO hotspot screening evaluation (Appendix D1), the intersection of N. River Road and College Boulevard was modelled as it was the only intersection meeting the County’s recommendation as discussed previously. The potential impact of the proposed project on local CO levels was assessed at these intersections with the Caltrans CL4 interface based on the California LINE Source Dispersion Model (CALINE4), which allows microscale CO concentrations to be estimated along each roadway corridor or near intersections (Caltrans 1998a).

The results of the model are shown in Table 4.3-13. Model input and output data are provided in Appendix D1.

**Table 4.3-13**  
**CALINE4 Predicted Carbon Monoxide Concentrations**

Intersection	Maximum Modeled Impact for Year 2035 (without Melrose Drive Extension) with General Plan Amendment Land Use (ppm)	
	1-hour	8-hour <sup>a</sup>
N. River Road and College Boulevard (AM peak hour)	2.1	1.3

**Source:** Caltrans 1998a (CALINE4).

**Notes:** CO = carbon monoxide; ppm = parts per million.

See Appendix D1.

<sup>a</sup> 8-hour concentrations were obtained by multiplying the 1-hour concentration by a persistence factor of 0.7 (Caltrans 2010).

As shown in Table 4.3-13, the maximum CO concentration predicted for the 1-hour averaging period at the studied intersections would be 2.1 parts per million (ppm), which is below the 1-hour CO CAAQS of 20 ppm (CARB 2016c). The maximum predicted 8-hour CO concentration of 1.3 ppm at the studied intersections would be below the 8-hour CO CAAQS of 9 ppm (CARB 2016c). Neither the 1-hour nor 8-hour CAAQS would be equaled or exceeded at any of the intersections studied. Impacts would be less than significant.

### Health Impacts of Other Criteria Air Pollutants

Construction and operation of the proposed project would not result in emissions that exceed the SDAPCD's emission thresholds for any criteria air pollutants. Regarding VOCs, some VOCs would be associated with motor vehicles and construction equipment, while others are associated with architectural coatings, the emissions of VOCs, would not result in the exceedances of the SDAPCD's thresholds. Generally, the VOCs in architectural coatings are of relatively low toxicity. Additionally, SDAPCD Rule 67.0.1 restricts the VOC content of coatings for both construction and operational applications.

In addition, VOCs and NO<sub>x</sub> are precursors to O<sub>3</sub>, for which the SDAB is designated as nonattainment with respect to the NAAQS and CAAQS (the SDAB is designated by the EPA as a nonattainment area for the 2008 8-hour O<sub>3</sub> NAAQS). The health effects associated with O<sub>3</sub> are generally associated with reduced lung function. The contribution of VOCs and NO<sub>x</sub> to regional ambient O<sub>3</sub> concentrations is the result of complex photochemistry. The increases in O<sub>3</sub> concentrations in the SDAB due to O<sub>3</sub> precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O<sub>3</sub> concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O<sub>3</sub> AAQS tend to occur between April and October when solar radiation is highest.

The holistic effect of a single project's emissions of O<sub>3</sub> precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, the VOC and NO<sub>x</sub> emissions associated with proposed project construction could minimally contribute to regional O<sub>3</sub> concentrations and the associated health impacts. Due to the minimal contribution during construction and operation, as well as the existing good air quality in coastal San Diego areas, health impacts would be considered less than significant.

Similar to O<sub>3</sub>, construction of the proposed project would not exceed thresholds for PM<sub>10</sub> or PM<sub>2.5</sub> and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter. The proposed project would also not result in substantial DPM emissions during construction and operation and therefore, would not result in significant health effects related to DPM exposure. Due to the minimal contribution of particulate matter during construction and operation, health impacts would be considered less than significant.

Regarding NO<sub>2</sub>, according to the construction emissions analysis, construction of the proposed project would not contribute to exceedances of the NAAQS and CAAQS for NO<sub>2</sub>. NO<sub>2</sub> and NO<sub>x</sub> health impacts are associated with respiratory irritation, which may be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, these operations would be relatively short term, and the proposed project would be required to comply

with SDAPCD Rule 55, which limits the amount of fugitive dust generated during construction. Additionally, off-road construction equipment would be operating at various portions of the site and would not be concentrated in one portion of the site at any one time. Construction of the proposed project would not require any stationary emission sources that would create substantial, localized NO<sub>x</sub> impacts. Therefore, health impacts would be considered less than significant.

The VOC and NO<sub>x</sub> emissions, as described previously, would minimally contribute to regional O<sub>3</sub> concentrations and the associated health effects. In addition to O<sub>3</sub>, NO<sub>x</sub> emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO<sub>2</sub>. The existing NO<sub>2</sub> concentrations in the area are well below the NAAQS and CAAQS standards. Thus, it is not expected the proposed project's operational NO<sub>x</sub> emissions would result in exceedances of the NO<sub>2</sub> standards or contribute to the associated health effects. CO tends to be a localized impact associated with congested intersections. The potential CO "hotspots" were discussed previously as a less-than-significant impact. Thus, the proposed project's CO emissions would not contribute to significant health effects associated with this pollutant. PM<sub>10</sub> and PM<sub>2.5</sub> would not contribute to potential exceedances of the NAAQS and CAAQS for particulate matter and would not obstruct the SDAB from coming into attainment for these pollutants and would not contribute to significant health effects associated with particulates. Therefore, health impacts associated with criteria air pollutants would be considered less than significant.

***Would the project create objectionable odors affecting a substantial number of people?***

The State of California Health and Safety Code, Division 26, Part 4, Chapter 3, Section 41700 SDAPCD Rule 51, and City's Municipal Code, Section 13.16, commonly referred to as public nuisance law, prohibits emissions from any source whatsoever in such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to the public health or damage to property. Projects required to obtain permits from SDAPCD are evaluated by SDAPCD staff for potential odor nuisance, and conditions may be applied (or control equipment required) where necessary to prevent occurrence of public nuisance.

SDAPCD Rule 51 (Public Nuisance) also prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors. Odor issues are very subjective by the nature of odors themselves and due to the fact that their measurements are difficult to quantify. As a result, this guideline is qualitative, and will focus on the existing and potential surrounding uses and location of sensitive receptors.

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of

receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

Odors would be potentially generated from vehicles and equipment exhaust emissions during construction of the proposed project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment. Such odors would disperse rapidly from the project site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be less than significant.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (South Coast Air Quality Management District [SCAQMD] 1993). Subsequent agriculture operations may include various diesel-powered vehicles and equipment used on the property. These sources are mobile and transient in nature, and the distance to the closest off-site residences would provide for dilution of odor-producing constituent emissions. These odors would dissipate rapidly and are temporary.

Additionally, the proposed project would include composting of organic material, which also would create odors. Any such composting operations would be located within the southernmost portion of the project site, within the farm hub (see Figure 3-3). The proposed project would be required to implement an Odor Impact Minimization Plan as required by law and codified in the CCR, Title 14 (Natural Resources), Division 7, Section 17863.4 (Odor Impact Minimization Plan) for composting operations. Because of the distance between the proposed project and the nearest sensitive receptors, odors emitted from agricultural operations may be noticeable beyond the area of operation. Thus, odors associated with the proposed project would be potentially significant without processes in place to mitigate odor.

Mitigation Measure (MM-) AQ-2 would require an Odor Impact Minimization Plan to reduce objectionable odor exposure to nearby sensitive receptors. The Odor Impact Minimization Plan describes the procedures to follow upon receiving a complaint. The protocol includes measures to identify the odor and requires appropriate adjustments to storage, process control, and facility improvements to reduce odor impacts. With incorporation of MM-AQ-2, potentially significant impacts related to odor would be reduced to less than significant.

### 4.3.5 Mitigation Measures

The following mitigation measures would reduce potentially significant impacts to air quality to a level below significance.

**MM-AQ-1 Diesel Exhaust.** To reduce the potential for health risks as a result of construction of the proposed project the applicant shall:

- A. Prior to the start of construction activities, the applicant or its designee shall ensure that all diesel-powered cranes, generator sets, trenchers, forklifts, rubber-tired dozers, and tractors/loaders/backhoes are powered with California Air Resources Board (CARB)-certified Tier 4 Interim engines, except where the applicant establishes to the satisfaction of the City of Oceanside (City) that Tier 4 Interim equipment is not available.
- B. All other diesel-powered construction equipment will be classified as Tier 3 or higher, at a minimum.

Before an exception to the engine tier requirements exemption may be granted considered by the City, the applicant shall be required to demonstrate that three construction fleet owners/operators in the San Diego region with fleets sufficiently sized to provide the types and quantities of equipment needed by the project were contacted and that the owners/operators determined that the requested equipment (Tier 4) could not be located within the region.

In the case that Tier 4 Interim engines are not available, the City shall require the applicant to use Tier 3 engines for the subject types of equipment. As such, the City shall require the applicant to prioritize the use of higher engine tiers over lower engine tiers.

Engine tier requirements in accordance with this measure shall be incorporated on all construction plans.**MM-AQ-2 Odor Control.** The Odor Impact Minimization Plan must be site specific and meet the requirements set forth in Title 14, Section 17863.4, of the California Code of Regulations, which includes at a minimum the following items:

- An odor monitoring protocol that describes the proximity of possible odor receptors and a method for assessing odor impacts at the locations of the possible odor receptors.

- A description of meteorological conditions effecting migration of odors and/or transport of odor-causing material off site. Seasonal variations that effect wind velocity and direction shall also be described.
- A complaint response protocol.
- A description of design considerations and/or projected ranges of optimal operation to be employed in minimizing odor, including method and degree of aeration, moisture content of materials, feedstock characteristics, airborne emission production, process water distribution, pad and site drainage and permeability, equipment reliability, personnel training, weather event impacts, utility service interruptions, and site specific concerns.
- A description of operating procedures for minimizing odor, including aeration, moisture management, feedstock quality, drainage controls, pad maintenance, wastewater pond controls, storage practices (e.g., storage time and pile geometry), contingency plans (i.e., equipment, water, power, and personnel), biofiltration, and tarping.

#### 4.3.6 Level of Significance After Mitigation

The construction of the proposed project would result in a potentially significant impact to sensitive receptors prior to mitigation. With implementation of MM-AQ-1, the emissions of DPM are significantly reduced compared to the unmitigated scenario. The detailed emissions assumptions and model outputs using CalEEMod are provided in Appendix D1. Table 4.3-14 shows the results of the HRA after implementation of MM-AQ-1 for the proposed project.

**Table 4.3-14**  
**Construction Activity Health Risk Assessment Results – Mitigated**

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
<i>Proposed Project</i>				
MICR – Residential Off Site	Per million	7.40	10.0	Less than significant
HIC – Off Site	Not applicable	0.003	1.0	Less than significant

Sources: Appendix D1.

Notes: MICR = Maximum Individual Cancer Risk; HIC = Chronic Hazard Index

The mitigated results shown in Table 4.3-14 demonstrate that the construction mobile sources exhibit maximum individual cancer risks (MICR) below the 10 in a million threshold and chronic hazard indices (HIC) less than 1. AERMOD and HARP2 outputs are contained in Appendix D1. With incorporation of MM-AQ-1 and MM-AQ-2, potentially significant impacts to air quality would be reduced to a level below significance.

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## 4.4 BIOLOGICAL RESOURCES

This section describes the existing biological resources of the project site and off-site improvement areas, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed North River Farms Planned Development (PD) Plan (proposed project). The following analysis is based on the North River Farms Project Biological Resources Technical Report (BTR), which was prepared for the proposed project by Dudek in January 2019 and is incorporated by reference herein. The BTR is included in Appendix E of this EIR.

### 4.4.1 Existing Conditions

#### 4.4.1.1 Regional Planning Context

The project site is located within the proposed North County Multiple Habitat Conservation Program (MHCP) (SANDAG 2003), which is a long-term regional conservation plan established to protect sensitive species and habitats in northern San Diego County. The MHCP is divided into seven subarea plans—one for each jurisdiction within the MHCP—that are permitted and implemented separately from one another. A draft Oceanside Subarea Habitat Conservation Plan/Natural Communities Conservation Plan (Oceanside Subarea Plan) has been prepared, and although the Subarea Plan has not been approved or permitted, it is used as a guidance document for projects in the City of Oceanside (City) (City of Oceanside 2010).

Within the Oceanside Subarea Plan, the project site is classified primarily as agricultural lands, with some portions mapped as disturbed. The Oceanside Subarea Plan has categorized this area as an Agricultural Exclusion Zone, which states that ongoing agricultural practices may continue in this area as long as they do not remove existing habitats (City of Oceanside 2010). A small portion of the proposed project, at the intersection of N. River Road and Wilshire Road, is within the hardline preserve, as shown on Figure 4.4-1. Considering that this area is developed as N. River Road and agricultural production, it is likely that this is a mapping conflict that will need to be corrected by the City with concurrence from the Wildlife Agencies per Section 6.5.1 of the Oceanside Subarea Plan.

#### 4.4.1.2 Existing Biological Resources

##### 4.4.1.2.1 Methodology

###### Literature Review

Sensitive biological resources present or potentially present on site were identified through a literature search using the following sources: U.S. Fish and Wildlife Service (USFWS) (2016a, 2016b), the California Natural Diversity Database (CNDDDB) (CDFW 2017a), and California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants of California (2017).

The project site lies within the City. In terms of regional preserve planning efforts, the proposed project is within the Oceanside Subarea Plan (City of Oceanside 2010).

### Field Reconnaissance

A reconnaissance-level field survey of the project site was conducted on August 4, 2014, by Dudek biologist Patricia Schuyler. An additional site visit was conducted on September 22, 2014, by Dudek wetland specialist Vipul Joshi. The project site was surveyed on foot and potential constraints were noted. The site was evaluated for general vegetation communities, the potential to support special-status wildlife and plant species, and an evaluation of jurisdictional aquatic resources such as wetlands/riparian habitat and waters/streambeds. During the September 2014 visit, a geographic positioning system (GPS) unit was used to set the boundary of the wetland area in the northern portion of the project site. Additional detail was recorded, such as the width of the jurisdiction of waters of the United States, and a more recent aerial image was used to determine the extent of the vegetation within the San Luis Rey River.

Vegetation mapping and the jurisdictional verification for the project site was conducted in July 2016 by Dudek biologist Marshall Paynard. A separate site visit was conducted in March 2017 by Dudek biologist Kathleen Dayton to conduct vegetation mapping and a delineation for the off-site areas. Table 4.4-1 lists the dates, conditions, and survey focus for each survey.

**Table 4.4-1  
Schedule of Surveys**

Date	Hours	Personnel	Focus	Conditions
8/4/14	0715–0930	Patricia Schuyler	Reconnaissance survey	68°F, 50% cloud cover, 0–1 mph winds
9/22/14	Not recorded	Vipul Joshi	Jurisdictional delineation	65°F, 0% cloud cover, 1–3 mph winds
7/13/16	Not recorded	Marshall Paynard	Vegetation mapping and jurisdictional delineation verification	78°F, 0% cloud cover, 0–1 mph winds
3/6/17	0752–0947	Kathleen Dayton	Vegetation mapping and jurisdictional delineation for the off-site areas	44°F–55°F; 0% cloud cover; 1–5 mph winds

A description of the methodology regarding vegetation community and land cover mapping, flora and fauna surveys, and jurisdictional delineation can be found in Appendix E. The vegetation mapping and jurisdictional delineation were conducted during the day and during the months of the year when most annuals would have been evident or identifiable. Due to the timing of the surveys, early spring and late fall blooming annual and cryptic perennials may not have been detectable. However, due to the heavily disturbed nature of the site, the presence of special-status plants is considered unlikely, and the need for focused surveys was deemed unnecessary.

Surveys specifically aimed at detection of the full range of wildlife species were not conducted. However, notes were taken for incidental wildlife observations made during the initial reconnaissance survey, jurisdictional delineation, and vegetation mapping to establish a general baseline of wildlife diversity within the project site. These surveys were conducted during the daytime, which usually results in few observations of mammals, many of which may be active at night. In addition, many species of reptiles and amphibians are nocturnal or cryptic in their habits and are difficult to observe using standard meandering transects.

This survey effort provides an accurate representation of the potential for special-status species to occur in the project site. The results of the study contained in Appendix E and presenting in this section provide a reasonable, accurate assessment of the project site.

#### 4.4.1.2.2 Results

##### Vegetation Communities, Land Covers, and Floral Diversity

Ten vegetation communities/land cover types were mapped on site and in off-site areas: southern arroyo willow riparian forest, disturbed southern willow scrub, mulefat scrub, non-vegetated channel, disturbed habitat, urban/developed, row crops, non-native woodland, and eucalyptus woodland. These vegetation communities and land cover types are described below, and their acreages are presented in Table 4.4-2 and on Figures 4.4-2a and 4.4-2b.

The Oceanside Subarea Plan requires mitigation at varying ratios for many vegetation communities. Vegetation communities considered special status are those communities that require mitigation by the City (City of Oceanside 2010); these are denoted by an asterisk in Table 4.4-2.

It should be noted that the vast majority of the site – 170.3 acres of the 176.6-acre site – is currently dedicated to row crop farming and thus does not support native vegetation. The other primary land cover types are disturbed habitat and urban/development. For this reason, there is currently little natural habitat for sensitive plants or wildlife.

**Table 4.4-2  
Vegetation Communities and Land Covers**

Habitat Types/Vegetation Communities	Code <sup>1</sup>	Habitat Group	Proposed Northerly Parcel (acres)	Proposed Southerly Parcel (acres)	Proposed ROW (acres)	Off-Site (acres)	Total Acreage
<i>Riparian/Waters and Wetlands</i>							
Southern arroyo willow riparian forest*	61320	A	—	—	—	0.02	0.02
Disturbed southern willow scrub*	63320	A	0.07	—	—	—	0.07

**Table 4.4-2**  
**Vegetation Communities and Land Covers**

Habitat Types/Vegetation Communities	Code <sup>1</sup>	Habitat Group	Proposed Northerly Parcel (acres)	Proposed Southerly Parcel (acres)	Proposed ROW (acres)	Off-Site (acres)	Total Acreage
Mulefat scrub*	63310	A	—	0.33	0.04	0.04	0.40
Non-vegetated channel*	64200	A	0.07	0.11	0.01	0.03	0.21
<i>Subtotal</i>			<i>0.14</i>	<i>0.43</i>	<i>0.05</i>	<i>0.08</i>	<i>0.70</i>
<i>Non-Natural Land Covers</i>							
Disturbed wetland*	11200	A	—	0.15	0.03	—	0.07
Disturbed habitat	11300	F	0.02	0.16	2.29	0.57	3.05
Urban/developed	12000	F	0.48	0.32	2.46	2.98	6.22
Row crops	18320	F	95.25	69.84	4.45	1.00	170.54
Non-native woodland	79000	F	—	0.36	0.21	—	0.57
Eucalyptus woodland	79100	F	0.10	—	—	—	0.10
<i>Subtotal</i>			<i>95.84</i>	<i>70.73</i>	<i>9.43</i>	<i>4.55</i>	<i>180.56</i>
<b>Total</b>			<b>95.98</b>	<b>71.16</b>	<b>9.49</b>	<b>4.63</b>	<b>181.27</b>

Source: Appendix E.

**Notes:**

\* Requires mitigation by the Oceanside Subarea Plan (see Table 5-2 of the Oceanside Subarea Plan).

### ***Southern Arroyo Willow Riparian Forest***

Southern arroyo willow riparian forest is dominated by moderately tall broad-leaved trees and willows and have closed or nearly closed canopies while understories are shrubby willows. They generally occur on frequently overflowed lands along perennially wet rivers and streams. Characteristic species include Douglas' sagewort (*Artemisia douglasiana*), mulefat (*Baccharis salicifolia*), Cucamonga manroot (*Marah macrocarpa*), sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), black cottonwood (*P. trichocarpa*), black willow (*Salix gooddingii*), narrowleaf willow (*Salix exigua* var. *hindsiana*), shining willow (*S. lasiandra*), arroyo willow (*S. lasiolepis*), and stinging nettle (*Urtica dioica* ssp. *holosericea*) (Oberbauer et al. 2008).

This vegetation community only occurs in a small area (0.02 acres) off site along the San Luis Rey River, as shown on Figures 4.4-2a and 4.4-2b. In this area, black willow is dominant with mulefat in the understory and stinging nettle in the herbaceous layer. Southern arroyo willow riparian forest is within the Habitat Group A of the Oceanside Subarea Plan and is considered a special-status vegetation community. As such, mitigation is required for impacts to this vegetation community. In addition, this area is under the jurisdiction of the ACOE, RWQCB, and the California Department of Fish and Wildlife (CDFW).

### ***Disturbed Southern Willow Scrub***

Southern willow scrub is described as dense, broadleafed, winter-deciduous riparian thickets dominated by several willow species (*Salix* spp.). Most stands are too dense to allow much understory development.

On site, this community is dominated by stands of black willow; arroyo willow; mulefat; and non-native species, such as salt cedar (*Tamarix ramosissima*), fennel (*Foeniculum vulgare*), and ladies' tobacco (*Pseudognaphalium californicum*). Southern willow scrub occurs along the north–west project boundary in a small area approximately 0.07 acres (Figure 4.4-2a).

Southern willow scrub is within the Habitat Group A of the Oceanside Subarea Plan and is considered a special-status vegetation community. As such, mitigation is required for impacts to this vegetation community. In addition, this area is under the jurisdiction of the CDFW.

### ***Mulefat Scrub***

Mulefat scrub is described as a successional herbaceous riparian plant community dominated by mulefat and may also contain various willows (*Salix* spp.), stinging nettle, and Santa Barbara sedge (*Carex barbarae*) at low percent covers. This community is commonly found along intermittent stream channels, canyons, and catchment basins.

On site, this community is dominated by mulefat with an understory of stinging nettle and poison hemlock (*Conium maculatum*). The mulefat scrub community occurs along a channel in the western portion of the project site, just south of N. River Road (Figures 4.4-2a and 4.4-2b). On-site this community is approximately 0.37 acres and off-site is approximately 0.04 acres.

Mulefat scrub is within the Habitat Group A of the Oceanside Subarea Plan, is considered a special-status vegetation community, and as such mitigation is required for impacts to this vegetation community. In addition, the channel associated with the mulefat scrub is under the jurisdiction of the ACOE, RWQCB, and CDFW, and the entire vegetation community is under the jurisdiction of CDFW.

### ***Non-Vegetated Channel***

Non-vegetated floodplain or channel is described as the sandy, gravelly, or rocky fringe of waterways or flood channels. In these areas, variable water lines inhibit vegetation growth such that only some weedy species of grasses grow along the outer edges, but total vegetation is less than 10% total cover (Oberbauer et al. 2008).

A non-vegetated channel flows through the project site along the edges of the agricultural fields and under N. River Road and then drains into the San Luis Rey River. Historic aerials

show that what appears to be a tributary to San Luis Rey River was located where the stream channel is currently mapped in the southern half of the project site and that the feature extended north across the road. This channel has been disturbed by both agricultural uses and human manipulation (i.e., berming) likely to divert water for agricultural operations. Another channel extends from the project site limits through the agricultural area to the south and connects to the San Luis Rey River. This feature appears to be excavated in uplands. Therefore, both areas mapped as non-vegetated channels have been artificially manipulated.

Non-vegetated channel is within the Habitat Group A of the Oceanside Subarea Plan and is considered a special-status vegetation community. As such, mitigation is required for impacts to this vegetation community. The larger channelized feature originates off site to the northwest, traverses the site, and discharges to San Luis Rey River. Because this channel appears to be a realignment of an existing feature and is connected to the San Luis Rey River, it is likely under the jurisdiction of ACOE, RWQCB, and CDFW. The channel that extends from the project site to the San Luis Rey River was excavated in uplands and, therefore, is likely only jurisdictional under RWQCB and CDFW.

### ***Disturbed Wetland***

Disturbed wetland includes areas permanently or periodically inundated by water that have been significantly altered by human activity (Oberbauer et al. 2008). On site, disturbed wetland occurs south of N. River Road east of the channel and associated mulefat scrub. This area is dominated by poison hemlock and stinging nettle, but other weedy forbs/herbs, such as black mustard (*Brassica nigra*), are also present. The northern part of the disturbed wetland includes riprap.

Disturbed wetland is within the Habitat Group A of the Oceanside Subarea Plan and is considered a special-status vegetation community. As such, mitigation is required for impacts to this vegetation community. In addition, because this area is dominated by hydrophytic vegetation and contiguous with the CDFW-jurisdictional mulefat scrub, it is under the jurisdiction of CDFW.

### ***Disturbed Habitat***

Disturbed habitat is described as areas that have been physically disturbed by previous human activity and are no longer recognizable as a native or naturalized vegetation association, but continues to retain a soil substrate.

The majority of the site located north of N. River farms Road has been significantly disturbed through repeated agricultural uses (Figure 4.4-2a). The soils within the disturbed habitat land cover type have been historically tilled and disked, and as such, have little to no vegetative cover present. This habitat type is not dominated by species characteristic of annual grassland per the

MHCP definition; however, Russian thistle (*Salsola tragus*), a species noted to occur within disturbed lands per the MHCP definition, was observed scattered throughout this land cover type. The disturbed habitat lining N. River Road is dominated by non-native acacia (*Acacia* sp.). In the disturbed habitat south of N. River Road there is scattered deerweed (*Acmispon glaber* var. *glaber*) but at less than 30% cover. This area also includes low cover of stinging nettle, castorbean (*Ricinus communis*), poison hemlock, fennel, black mustard, and telegraphweed (*Heterotheca grandiflora*).

Disturbed land is within Habitat Group F of the Oceanside Subarea Plan. This community is not considered a special-status vegetation community; however, impacts to this land cover may be subject to a habitat development fee. As described in Section 5.5.2 of the Oceanside Subarea Plan (City of Oceanside 2010), these fees are collected in accordance with the Habitat Development Fee program for the conversion of agricultural and other vacant, disturbed land to urban use in order to fund habitat restoration.

### ***Urban/Developed***

Urban/developed land cover is described as areas that have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation.

The urban/developed land cover type primarily consists of N. River Road, the associated ornamental plantings that line it, and the structures found on site (Figure 4.4-2a).

Developed land is not listed within an Oceanside Subarea Plan habitat group, indicating that it has limited to no habitat value.

### ***Row Crops***

Row crops land cover type is described as areas composed of annual and perennial crops grown in rows with open space between the rows. Species composition frequently changes by season and year. Row crops are nearly always artificially irrigated.

The project site located south of N. River Road is almost entirely composed of active agriculture (Figure 4.4-2). Row crops cover approximately 170.30 acres. The herbaceous crops have been planted in rows and are actively being artificially irrigated.

Row crops is a form of agricultural land and is within Habitat Group F of the Oceanside Subarea Plan. This community is not considered a special-status vegetation community; however, impacts to this land cover may be subject to a habitat development fee.

### ***Non-Native Woodland***

Non-native woodland is described as areas woodland of exotic trees, usually intentionally planted, which are not maintained or artificially irrigated.

On site, this community covers approximately 0.57 acres is primarily composed of Brazilian peppertree (*Schinus terebinthifolius*) Peruvian peppertree (*Schinus molle*), palms, and eucalyptus (*Eucalyptus* spp.). This community occurs just south of N. River Road along the perimeter of an abandoned single-family home (Figure 4.4-2a).

Non-native woodland land cover type is not listed within an Oceanside Subarea Plan habitat group, indicating that it has limited to no habitat value; however, impacts to this land cover may be subject to a habitat development fee.

### ***Eucalyptus Woodland***

Eucalyptus woodland is described as a type of non-native woodland. Eucalyptus stands range from single-species thickets with little or no shrubby understory to scattered trees over a well-developed herbaceous and shrubby understory (Oberbauer et al. 2008).

On site, this community covers approximately 0.10 acres and is primarily composed of eucalyptus with little to no understory. Eucalyptus habitat occurs near the abandoned farm structures located in the northeastern portion of the site (Figure 4.4-2a).

Eucalyptus woodland is within Habitat Group F of the Oceanside Subarea Plan. This community is not considered a special-status vegetation community; however, impacts to this land cover may be subject to a habitat development fee.

### ***Flora***

A total of 27 vascular plant species, consisting of 11 native species (41%), and 16 non-native species (59%), were recorded on site during surveys (Appendix E).

### ***Wildlife***

A list of the wildlife species observed within the project site during surveys is provided in Appendix E. There were 13 wildlife species observed on the project site. The majority of the species detected during the biological surveys were birds. Common species observed within the project site include mourning dove (*Zenaida macroura*), house finch (*Haemorhous mexicanus*), and Anna's hummingbird (*Calypte anna*). Only one reptile species, western fence lizard (*Sceloporus occidentalis*), and two mammal species, California ground squirrel (*Spermophilus beecheyi*) and coyote (*Canis latrans*), were observed.

### **Special-Status/Regulated Resources**

Endangered, rare, or threatened species, as defined in California Environmental Quality Act (CEQA) Guideline 15380(b) (14 CCR 15000 et seq.), are referred to as “special-status species” in this section and include (1) endangered, threatened, or candidate species recognized in the context of the California Endangered Species Act (CESA) and the federal Endangered Species Act (ESA); (2) plant species with a California Rare Plant Rank (CRPR) 1 through 3; see the CDFW special vascular plants list, which states, “Note that all California Rare Plant Rank 1 and 2 and some Rank 3 and 4 plants may fall under Section 15380 of CEQA” (CDFW 2017b; CNPS 2017); (3) California Species of Special Concern (SSC), as designated by the CDFW (CDFW 2017c); (4) mammals and birds that are fully protected (FP) species, as described in the California Fish and Game Code, Sections 4700 and 3511; (5) Birds of Conservation Concern (BCC), as designated by the U.S. Fish and Wildlife Service (USFWS 2008); and species proposed for coverage under the draft Oceanside Subarea Plan (Table 3-4, City of Oceanside 2010).

### ***Special-Status Vegetation Communities***

Vegetation communities considered special-status are those communities that require mitigation by the City (City of Oceanside 2010). There are five vegetation communities considered sensitive on site according to the MHCP and Oceanside Subarea Plan (2010): southern arroyo willow riparian forest, disturbed southern willow scrub, mulefat scrub, non-vegetated channel, and disturbed wetland (Figures 4.4-2a and 4.4-2b). These communities are included in Habitat Group A.

### ***Special-Status Plant Species***

Due to the lack of native habitat, no focused plant surveys were conducted and no special-status plants were observed during any of the other biological surveys. There is very low potential for any special-status plants to occur on site due to the highly disturbed nature of the site and general lack of native vegetation within a majority of the site.

Appendix E lists the special-status plant species reported in the U.S. Geological Survey 7.5-minute Morro Hill quadrangle, the surrounding eight topographic quadrangles (CNPS 2017; CDFW 2017a), and plant species proposed for coverage under the Oceanside Subarea Plan (Table 3-4, City of Oceanside 2010). This appendix analyzes each of these special-status species’ potential to occur based on known range, habitat associations, preferred soil substrate, life form, elevation, and blooming period. There are no special-status plant species with a moderate or high potential to occur within the study area. All the special-status plant species in the table are either not expected to occur or have a low potential to occur; therefore, these species are not further analyzed in this EIR.

### ***Special-Status Wildlife Species***

Due to lack of suitable habitat, no focused wildlife surveys were conducted and no special-status wildlife species were observed on site during any of the biological surveys. A search of CNDDDB records in the U.S. Geological Survey 7.5-minute Morro Hill quadrangle and surrounding eight topographic quadrangles (CDFW 2017a) was used to develop a matrix of special-status wildlife species that may have potential to occur on site due to the presence of suitable habitat (taking into consideration vegetation communities, elevation, and geographic range). The special-status species matrix is presented in Appendix E and includes species proposed for coverage under the Oceanside Subarea Plan (Table 3-4, City of Oceanside 2010).

According to the analysis provided in Appendix E, the following special-status wildlife species have potential (i.e., moderate potential or higher) to occur on site and include pallid bat (*Antrozous pallidus*) and western mastiff bat (*Eumops perotis californicus*). While these species may forage over the project site, there is no roosting (i.e., breeding) habitat on site for either species (Appendix E). Although there is a potential for pallid bat to roost within the eucalyptus trees and abandoned structures on site, heavy human influence would likely preclude this species from using those features.

In addition, the following birds may forage on site but are not expected or have a low potential to nest on site: northern harrier (*Circus cyaneus*), yellow-breasted chat (*Icteria virens*), yellow warbler (*Setophaga petechia*), Cooper's hawk (*Accipiter cooperii*), Swainson's hawk (*Buteo swainsoni*), and white-tailed kite (*Elanus leucurus*). They are not considered special status if they are not nesting on site.

It should be noted that there are documented occurrences of least Bell's vireo (*Vireo bellii pusillus*) within 0.5 miles and southwestern willow flycatcher (*Empidonax traillii extimus*) approximately 100 feet within the riparian habitat associated with the San Luis Rey River adjacent to the project site. However, due to the disturbed character and limited amount of riparian vegetation located on site, there is low potential for these species to nest or forage in the project boundary.

There are three species with USFWS critical habitat within the project site: least Bell's vireo, southwestern willow flycatcher, and arroyo toad (*Anaxyrus californicus*) (Appendix E). However, there is limited suitable riparian habitat for these species within the project site.

### ***Jurisdictional Resources***

There are jurisdictional features located in the project site. These resources, including CDFW jurisdictional riparian habitat (disturbed southern willow scrub, mulefat scrub, disturbed wetland) and ACOE/RWQCB/CDFW jurisdictional wetlands/riparian habitat (southern arroyo willow riparian forest) and ACOE/RWQCB non-wetland waters and CDFW streambed (non-vegetated

channel), are shown on Figures 4.4-2a and 4.4-2b. Table 4.4-3 provides a summary, in acreages by project site, of these jurisdictional resources. These resources are discussed by vegetation community in more detail below. Jurisdictional delineation data forms are provided in Appendix E.

**Table 4.4-3  
Jurisdictional Resources**

Jurisdiction	Vegetation Community	Northerly Parcel (acres)	Southerly Parcel (acres)	Proposed ROW (acres)	Off Site (acres)	Total Acreage
ACOE/RWQCB non-wetland waters/CDFW streambed	Non-vegetated channel	0.14	0.19	0.02	0.10	0.47
ACOE/RWQCB wetland/CDFW riparian habitat	Southern arroyo willow riparian forest	—	—		0.02	0.02
CDFW-only riparian habitat	Disturbed southern willow scrub	0.07	—		—	0.07
	Disturbed wetland	—	0.05	0.03	—	0.07
	Mulefat scrub	—	0.33	0.04	0.04	0.40
<b>Grand Total</b>		<b>0.21</b>	<b>0.56</b>	<b>0.09</b>	<b>0.16</b>	<b>1.02</b>

Source: Appendix E.

#### Southern Arroyo Willow Riparian Forest – ACOE/RWQCB Wetland and CDFW Riparian Habitat

The southern arroyo willow riparian forest occurs in an off-site area south of the project site. This community was evaluated to determine if it meets ACOE/RWQCB criteria for wetlands and CDFW criteria for riparian habitat. An evaluation of this area indicated the presence of hydrophytic vegetation and hydrology. Hydric soils were assumed given the standing water within the sampling plot, and mature riparian vegetation and because this area is part of the San Luis Rey River. As such, this area is considered an ACOE/RWQCB wetland and CDFW riparian habitat.

#### Disturbed Southern Willow Scrub – CDFW Riparian Habitat

The disturbed southern willow scrub community extends from a larger off-site riparian area located just west of the project site. This community was evaluated to determine if it meets ACOE/RWQCB criteria for wetlands and CDFW criteria for riparian habitat. An evaluation of this area indicated the presence of hydrophytic vegetation but an absence of hydric soils and/or adequate hydrology. As such, these resources are not considered ACOE/RWQCB wetlands or non-wetland waters. Given the hydrophytic vegetation and connection to a larger off-site riparian area, the disturbed southern willow scrub on site will be considered riparian habitat under CDFW jurisdiction.

#### Mulefat Scrub – CDFW Riparian Habitat

The mulefat scrub community is located along the west perimeter of the project site, just south of N. River Road (Figure 4.4-2b). The mulefat scrub was evaluated to determine if it meets ACOE/RWQCB criteria for wetlands and CDFW criteria for riparian habitat. An evaluation of this area indicated the presence of hydrophytic vegetation, but an absence of hydric soils, wetland hydrology, and/or indicators of ordinary high water mark. As such, these resources are not considered ACOE/RWQCB wetlands or non-wetland waters. The mulefat scrub would be considered a CDFW-jurisdictional riparian habitat due to the association of hydrophytic vegetation and a defined streambed.

#### Disturbed Wetland – CDFW Riparian Habitat

Disturbed wetland occurs south of N. River Road and east of the channel and associated mulefat scrub. This area is dominated by poison hemlock and stinging nettle, but other weedy forbs/herbs, such as black mustard, are also present. The northern part of the disturbed wetland includes rip rap. This area is dominated by hydrophytic vegetation and contiguous with the CDFW-jurisdictional streambed; therefore, it is under the jurisdiction of CDFW.

#### Non-Vegetated Channel/Non-Wetland Jurisdictional Waters

There is one non-vegetated channel within the project site and one located off-site, as shown on Figure 4.4-2. Both of these lack hydrophytic vegetation but provide connectivity to the San Luis Rey River south of the project site and, therefore, could qualify as non-wetland waters/streambed under the jurisdiction of ACOE/ RWQCB/CDFW. The channel that extends from the project site to the San Luis Rey River was excavated and, therefore, is likely only jurisdictional under RWQCB and CDFW. This determination will be made during the permitting process.

#### **Wildlife Corridors and Habitat Linkages**

The San Luis Rey River Valley is identified as a hardline preserve in the Oceanside Subarea Plan and the MHCP to allow for east–west wildlife movement. However, wildlife movement is constrained by existing residential housing and active agricultural lands. Large mammals, such as mule deer (*Odocoileus hemionus*) and mountain lion (*Puma concolor*), would not be expected to move through this area due to the limited native habitat present and urban surroundings. General wildlife movement could occur in the riparian corridor associated with the San Luis Rey River, which is present off site to the south of the project development boundary. The area has the potential to provide open space for raptors to forage and potentially nest, but due to the lack of habitat diversity and agricultural environment, only a limited number of synanthropic species would be expected to move through the project site. Therefore, the project site does not provide for considerable wildlife movement or serve as an important habitat linkage.

The Oceanside Subarea Plan evaluated corridors within the Oceanside subarea, which were used to supplement the MHCP's biological core and linkage area analysis (SANDAG 2003). The project site is not located within the Wildlife Corridor Planning Zone identified by the Oceanside Subarea Plan (City of Oceanside 2010).

## 4.4.2 Regulatory Setting

### Federal

#### *Federal Endangered Species Act*

The federal Endangered Species Act (ESA) of 1973 designates threatened and endangered animals and plant species and provides measures for their protection and recovery. Under the ESA, "take" of listed animal and plant species in areas under federal jurisdiction is prohibited without obtaining a federal permit. The ESA defines "take" as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct" (16 U.S. Code [U.S.C] 1531). Harm includes any act that actually kills or injures fish or wildlife, including significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife. Activities that damage (i.e., harm) the habitat of listed wildlife species require approval from USFWS for terrestrial species. If critical habitat has been designated under the ESA for listed species, impacts to areas that contain the primary constituent elements identified for the species, whether or not it is currently present, is also prohibited without obtaining a federal permit. ESA, Sections 7 and 10, provide two pathways for obtaining permission to take listed species.

#### *Clean Water Act*

The CWA is intended to restore and maintain the quality and biological integrity of the nation's waters. Section 402 of the CWA prohibits the discharge of pollutants to "waters of the United States" from any point source unless the discharge is in compliance with a National Pollutant Discharge Elimination System Permit. The CWA, Section 402, requires a National Pollutant Discharge Elimination System Permit for the discharge of stormwater from municipal separate storm sewer systems serving urban areas with a population greater than 100,000, construction sites that disturb 1 acre or more, and industrial facilities. The RWQCB administers these permits with oversight provided by the State Water Resources Control Board and U.S. Environmental Protection Agency Region IX.

Section 404 of the CWA authorizes the Secretary of the Army, acting through ACOE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites." CWA Section 502 further defines "navigable waters" as "waters of the United States, including territorial seas." Waters of the United States are broadly defined in the Code of Federal Regulations (CFR), Title 33, Section 328.3, Subdivision (a), to include navigable waters; perennial and intermittent streams, lakes, rivers, and ponds; and wetlands, marshes, and wet meadows.

The lateral limits of ACOE’s CWA, Section 404, jurisdiction in non-tidal waters are defined by the ordinary high water mark, unless adjacent wetlands are present. The ordinary high water mark is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or presence of debris (33 CFR 328.3). As a result, waters are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within or adjacent to waters of the United States, the lateral limits of ACOE’s jurisdiction extends beyond the ordinary high water mark to the outer edge of the wetland.

Section 401 of the CWA requires that an applicant for a federal license or permit to discharge into navigable waters provide the federal agency with a water quality certification declaring that the discharge would comply with water quality standard requirements of the CWA. ACOE is prohibited from issuing a CWA permit until the applicant receives a CWA, Section 401, water quality certification or waiver from the RWQCB.

### ***Migratory Bird Treaty Act***

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and is listed in 50 CFR 10.13. The regulatory definition of “migratory bird” is broad and includes any mutation or hybrid of a listed species and includes any part, egg, or nest of such bird (50 CFR 10.12). Migratory birds are not necessarily federally listed endangered or threatened birds under the ESA. The MBTA, which is enforced by USFWS, makes it unlawful “by any means or in any manner, to pursue, hunt, take, capture, [or] kill” any migratory bird or attempt such actions, except as permitted by regulation. The applicable regulations prohibit the take, possession, import, export, transport, sale, purchase, barter, or offering of these activities, except under a valid permit or as permitted in the implementing regulations (50 CFR 21.11).

### **State**

#### ***California Department of Fish and Wildlife***

Under Section 1602 of the California Fish and Game Code, the California Department of Fish and Wildlife (CDFW) regulates activities that will divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFW has jurisdiction over riparian habitats (e.g., mulefat scrub) associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. CDFW jurisdiction does not include tidal areas or isolated resources.

### ***California Endangered Species Act***

CDFW administers the California ESA (California Fish and Game Code, Section 2050 et seq.), which prohibits the take of plant and animal species designated by the Fish and Game Commission as endangered or threatened in California. Under the California ESA, Section 86, take is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” California ESA, Section 2053, stipulates that state agencies may not approve projects that would “jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy.”

California ESA, Sections 2080 through 2085, address the taking of threatened, endangered, or candidate species by stating, “No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided in this chapter, the Native Plant Protection Act (California Fish and Game Code, Sections 1900–1913), or the California Desert Native Plants Act (Food and Agricultural Code, Section 80001).”

### **Local**

#### ***Regional Water Quality Control Board***

The Regional Water Quality Control Board (RWQCB) administers Section 401 permits and provides certification. The RWQCB also plays a role in review of water quality and wetland issues, including avoidance and minimization of impacts. Section 401 certification is required prior to the issuance of a Section 404 permit. Permits requiring Section 401 certification include ACOE Section 404 permits and National Pollutant Discharge Elimination System (NPDES) permits issued by the Environmental Protection Agency (EPA) under Section 402 of the CWA. NPDES permits are issued by the applicable RWQCB. The City is within the jurisdiction of the San Diego RWQCB (Region 9).

#### ***North County Multiple Habitat Conservation Program***

The Multiple Habitat Conservation Program (MHCP) is a comprehensive, long-term regional habitat conservation plan established to protect sensitive species and habitats in northern San Diego County. The MHCP is one of three, large multiple-jurisdictional habitat planning efforts in San Diego County; those being the South County Plan, the North County Plan, and the East County Plan. Each of these constitutes a subregional plan under the State of California’s Natural Community Conservation Planning (NCCP) Act of 1991. The MHCP encompasses the Cities of

Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista. The program goals are to conserve approximately 19,000 acres of habitat, of which roughly 8,800 acres (46%) are already in public ownership and contribute toward the habitat preserve system for the protection of more than 80 rare, threatened, or endangered species (SANDAG 2003). The MHCP sets forth general and subarea conditions of coverage that must be met for each covered species in order for the cities to obtain take authorization.

### ***Oceanside Subarea Habitat Conservation Plan/Natural Communities Conservation Plan***

The Oceanside Subarea Plan was prepared per the California Natural Community Conservation Planning Act (NCCP Act) and the ESA. The Oceanside Subarea Plan addresses how the City will conserve and protect biological communities and species considered sensitive under the NCCP Act and ESA. The City is given authority to permit the taking of natural habitats within its jurisdictional boundaries. The Oceanside Subarea Plan was used as guidance for the BTR and this EIR.

Section 5 of the Oceanside Subarea Plan describes the minimum 100-foot biological buffer that shall be established for upland habitats, beginning at the outer edge of riparian vegetation along the San Luis Rey River. The following uses are prohibited in the 100-foot biological buffer (City of Oceanside 2010):

1. New development
2. New pedestrian and bike trails or passive recreational uses not already planned
3. Fuel modification activities for new development

If there are impacts within the 100-foot buffer, native habitats appropriate to the location and soils (coastal sage scrub is typically preferred) shall be restored as a condition of project approval (City of Oceanside 2010).

Section 5.2.8 of the Oceanside Subarea Plan includes minimization measures that would be required to be implemented by the proposed project. These minimization measures, as follows, are required of all project that may impact biological resources within the City:

1. The project applicant shall temporarily fence (with silt barriers) the limits of project impacts (including construction staging areas and access routes) to prevent additional habitat impacts and prevent the spread of silt from the construction zone into adjacent native habitats to be preserved. Fencing shall be installed in a manner that does not impact habitats to be preserved. If work occurs beyond the fenced or demarcated limits of impact, all work shall cease until the problem has been remedied to the satisfaction of the Wildlife Agencies. Any riparian/wetland or upland habitat impacts that occur beyond the

approved fenced shall be mitigated at a minimum 5:1 ratio. Temporary construction fencing shall be removed upon project completion.

2. Impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures.
3. The project applicant shall develop an educational pamphlet (in English and Spanish) for the identification of raptor nests and to guide tree pruning activities in suburban areas during the breeding season. Landscaping companies and tree trimming services that have projects in the City shall be required to use the pamphlet to educate their employees on the recognition of raptor nest trees. Trimming of trees containing raptor or migrating bird nests shall be prohibited during the raptor breeding season (January 15 to August 31). Human disturbance shall be restricted around documented nesting habitat during the breeding season based on the following:

To avoid any direct and indirect impacts to raptors and/or any migratory birds, grubbing and clearing of vegetation that may support active nests and construction activities adjacent to nesting habitat will occur outside of the breeding season (January 15 to August 31). If removal of habitat and/or construction activities is necessary adjacent to nesting habitat during the breeding season, the applicant shall retain a City-approved biologist to conduct a pre-construction survey to determine the presence or absence of non-listed nesting migratory birds on or within 300 feet of the construction area, and federally- or State-listed birds and raptors on or within 500 feet of the construction area. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction, the results of which must be submitted to the City for review and approval prior to initiating any construction activities. If nesting birds are detected by the City-approved biologist, the following buffers shall be established: 1) no work within 300 feet of a non-listed nesting migratory bird nest, and 2) no work within 500 feet of a listed bird or raptor nest. However, the City may reduce these buffer widths depending on site-specific conditions (e.g. the width and type of screening vegetation between the nest and proposed activity) or the existing ambient level of activity (e.g., existing level of human activity within the buffer distance). If construction must take place within the recommended buffer widths above, the project applicant will contact the City and Wildlife Agencies to determine the appropriate buffer.

4. A monitoring biologist shall be onsite during: a) initial clearing and grubbing of all native habitats; and b) project construction within 500 feet of preserved habitat to ensure compliance with all conservation measures. The biologist must be knowledgeable of the covered species biology and ecology.
5. The applicant shall ensure that development landscaping adjacent to on- or off-site habitat does not include exotic plant species that may be invasive to native habitats. Exotic plant

species not to be used include any species listed on the California Invasive Plant Council's (Cal-IPC) "Invasive Plant Inventory" List. This list includes such species as pepper trees, pampas grass, fountain grass, ice plant, myoporum, black locust, capeweed, tree of heaven, periwinkle, sweet alyssum, English ivy, French broom, Scotch broom, and Spanish broom. A copy of the complete list can be obtained from Cal-IPC's web site or other similar sources that may evolve over the life of this plan. In addition, landscaping should not use plants that require intensive irrigation, fertilizers, or pesticides adjacent to the Preserve and water runoff from landscaped areas should be directed away from the biological conservation easement area and contained and/or treated within the development footprint. The applicant shall ensure that development lighting adjacent to all on- or offsite habitat shall be directed away from and/or shielded so as not to illuminate native habitats.

6. If night work is necessary, night lighting shall be of the lowest illumination necessary for human safety, selectively placed, shielded and directed away from natural habitats.
7. The biological monitor should flush wildlife out of habitat areas before they are cleared.
8. The biological monitor shall prepare periodic construction monitoring reports and a post-construction report to document compliance.
9. Any planting stock to be brought onto the project site for landscape or habitat creation/restoration/enhancement shall be first inspected by a qualified pest inspector to ensure it is free of pest species that could invade natural areas, including but not limited to, Argentine ants (*Iridomyrmex humil*), fire ants (*Solenopsis invicta*), and other insect pests. Any planting stock found to be infested with such pests shall not be allowed on the project site or within 300 feet of natural habitats unless documentation is provided to the Agencies that these pests already occur in natural areas around the project site. The stock shall be quarantined, treated, or disposed of according to best management principles by qualified experts in a manner that precludes invasions into natural habitats. The applicant shall ensure that all temporary irrigation will be for the shortest duration possible, and that no permanent irrigation will be used, for landscape or habitat creation/restoration/enhancement.
10. The applicant shall ensure that the following conditions are implemented during project construction:
  - a. Employees shall strictly limit their activities, vehicles, equipment, and construction materials to the fenced project footprint;
  - b. To avoid attracting predators of covered species, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site;
  - c. Pets of project personnel shall not be allowed on the project site;

- d. Disposal or temporary placement of excess fill, brush or other debris shall not be allowed in waters of the United States or their banks;
- e. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities shall occur in designated areas outside of waters of the United States within the fenced project impact limits. These designated areas shall be located in previously compacted and disturbed areas to the maximum extent practicable in such a manner as to prevent any runoff from entering waters of the United States, and shall be shown on the construction plans. Fueling of equipment shall take place within existing paved areas greater than 100 feet from waters of the United States. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary. “No-fueling zones” shall be designated on construction plans.

### ***City of Oceanside General Plan***

The City’s General Plan Land Use Element contains environmental resource management objectives and policies pertaining to biological resources (City of Oceanside 2002). Applicable objectives and policies include the following:

**Vegetation and Wildlife Habitats, Objective:** Recognition and preservation of significant areas with regard to vegetation and wildlife habitats.

**Policy 3.11A:** A biological survey report, including a field survey, shall be required for a proposed project site if the site is largely or totally in a natural state or if high interest species of plants or animals have been found on nearby properties.

**Policy 3.11B:** Where appropriate, the City shall apply open space land use designations and open space zoning to areas of significant scenic, ecological, or recreational value.

**Policy 3.11C:** In areas where vegetation or wildlife habitat modification is inevitable, mitigation and/or compensatory measures such as native plant restoration, land reclamation, habitat replacement, or land interest donation will be considered.

**Policy 3.11D:** Areas containing unique vegetation or wildlife habitats shall receive a high priority for preservation.

**Policy 3.11E:** Specific plans shall be developed in conjunction with regional and County agencies where appropriate, for areas where there is occurrence of endangered or threatened species.

The Environmental Resource Management Element of the City's General Plan also contain long-range policy direct and action programs with respect to biological resources. The Environmental Resource Management Element contains a workable program designed to conserve natural resources and preserve open space. The long range policy direction for biological resources is:

**Vegetation and Wildlife Habitats, Long-Range Objective:** Conserve and enhance vegetation and wildlife habitats, especially areas of rare, endangered, or threatened species.

### **4.4.3 Thresholds of Significance**

The significance criteria used to evaluate the project impacts to biological resources are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to biological resources would occur if the proposed project would:

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

### **4.4.4 Impacts Analysis**

For the purposes of biological resources impact analysis, direct, indirect, and cumulative impacts are defined as the following:

**Direct impacts** refer to the permanent loss of on-site habitat and the plant and wildlife species that it contains. All biological resources within the direct permanent impact area are considered 100%

lost. Direct impacts were quantified by overlaying the project footprint (including off-site areas) onto the biological resources map of the site. The proposed development of the entire site is considered to be a direct permanent impact.

*Indirect Impacts* refer to off-site and on-site “edge effects” that are short-term (i.e., not permanent) as a result of project construction or long-term (i.e., permanent) due to the design of the proposed project and the effects it may have to adjacent resources. For the proposed project, it is assumed that the potential indirect impacts resulting from construction activities such as dust, noise, and general human presence that may temporarily disrupt species and habitat vitality and construction-related soil erosion and runoff. With respect to these latter factors, however, project grading will be subject to the typical restrictions (e.g., best management practices) and requirements that address erosion and runoff, including the federal Clean Water Act, National Pollution Discharge Elimination System (NPDES), and preparation of a Stormwater Pollution Prevention Plan (SWPPP). Additionally, the area between the proposed project and the San Luis Rey River will continue to be maintained and operated as active agricultural lands; therefore, indirect impacts from noise, lighting, and invasive species occurring adjacent to the San Luis Rey River would not change with project implementation.

*Cumulative Impacts* refer to incremental individual environmental effects of two or more projects when considered together. These impacts taken individually may be minor but collectively significant as they occur over a period of time. These impacts are also discussed in Chapter 5, Cumulative Effects, of this EIR.

*Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

## **Direct Impacts**

### ***Special-Status Plants***

No special-status plants were detected during the biological surveys, and none have a moderate to high potential to occur on site (Appendix E). Therefore, implementation of the proposed project would not directly impact any special-status plant species. Impacts would be less than significant.

### ***Special-Status Wildlife***

No special-status wildlife species were detected on the project site during biological surveys. Wildlife species with a moderate or higher potential to occur as outlined in Appendix E include pallid bat and western mastiff bat (no roosting habitat for either species). In addition, northern harrier, yellow-breasted chat, yellow warbler, Cooper’s hawk, Swainson’s hawk, and white-tailed

kite may forage on site but are not expected or have a low potential to nest on site. Because these bird species are highly mobile, it is unlikely that the proposed project would result in the loss of individual special-status bird species. Therefore, impacts would be less than significant.

Construction activities could result in the loss of nests, eggs, and fledglings of nesting birds protected under the Migratory Bird Treaty Act (MBTA) if vegetation clearing and ground-disturbing activities occur during the nesting season (February 15 through August 31 for most species, January 15 through August 31 for raptors). Therefore, impacts would be potentially significant. Mitigation Measure (MM-) BIO-1, which requires pre-construction nesting bird surveys, would reduce potentially significant impacts to nesting birds protected under the MBTA to a level below significance.

Loss of suitable habitat for special-status wildlife species is limited given that the majority of impacts are to extensive row crop agriculture (159 acres, or 95% of the impact area), which does not provide native, natural habitat for special-status wildlife species. Therefore, impacts would be less than significant.

## **Indirect Impacts**

### ***Special-Status Plants***

Although there are limited vegetation communities associated with the San Luis Rey River that have the potential to support special-status plant species adjacent to the project site, minimization measures required by Section 5.2.8 of the Oceanside Subarea Plan would be applied to avoid indirect impacts to special-status plant species. Therefore, indirect impacts to off-site special-status plant species are not expected to occur. Impacts would be less than significant.

### ***Special-Status Wildlife***

Wildlife may be indirectly affected in the short-term and long-term by noise and lighting, which can disrupt normal activities and subject wildlife to higher predation risks. As described in Section 4.1, Aesthetics, outdoor nighttime lighting would be direct downward and away from adjacent properties, reducing light spillover. Also, adverse edge effects can cause degradation of habitat quality through the invasion of pest species. The area between the project site and the San Luis Rey River will continue to be maintained and operated as active agricultural lands providing a buffer of the existing land use between the San Luis Rey River and the proposed project; therefore, indirect impacts occurring to special-status species which use the San Luis Rey River would not change with project implementation. Minimization measures required by Section 5.2.8 of the Oceanside Subarea Plan would be applied to avoid indirect impacts to special-status wildlife species. Given the current disturbance of the surrounding area, indirect impacts to wildlife species, other than nesting birds, would be less than significant.

Breeding birds can be significantly affected by short-term construction-related noise, which can result in the disruption of foraging, nesting, and reproductive activities. Although the areas adjacent to the project site, or left intact on the project site following implementation of the proposed project, support very limited suitable vegetation for bird nesting, the ornamental trees surrounding the project site may support nesting habitat for raptors. Indirect impacts from construction-related noise may occur to wildlife if construction occurs during the breeding season (i.e., February 15–August 31 for most bird species and January 1–August 31 for raptors). Therefore, impacts would be potentially significant. MM-BIO-1, which requires pre-construction nesting bird surveys, would reduce potentially significant impacts to nesting birds protected under the MBTA to a level below significance.

*Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

### Direct Impacts

The proposed project includes the development of most of the project site, as well as all of the public right-of-way and off-site area, into multiple districts including residential uses and commercial uses. Direct impacts (permanent and temporary) will likely occur to the vast majority of the project site. Per the Oceanside Subarea Plan a 100-foot conservation buffer (i.e., no impacts) shall be placed around the San Luis Rey River, beginning at the outer edge of the riparian vegetation. Impacts within the buffer are proposed; however, they are required for improvements to N. River Road and for off-site storm drain easements and outfalls to the San Luis Rey River.

The proposed project will result in direct permanent impacts to the vast majority of project site (approximately 170 acres), of which approximately 0.42 acres are considered sensitive. Direct permanent impacts to vegetation communities are presented in Table 4.4-4 and on Figures 4.4-3a and 4.4-3b. There are no temporary direct impacts as a result of the proposed project.

**Table 4.4-4  
Direct Permanent Impacts to Vegetation Communities**

Habitat Types/Vegetation Communities	Code <sup>1</sup>	Habitat Group	Total Acreage	Proposed Northerly Parcel Impacts (acres)	Proposed Southerly Parcel Impacts (acres)	Proposed ROW Impacts (acres)	Off-site Impacts (acres)	Total Acreage Impacted
<i>Sensitive Vegetation Communities</i>								
Southern Arroyo Willow Riparian Forest*	61320	A	0.02	—	—	—	0.02	0.02

**Table 4.4-4  
Direct Permanent Impacts to Vegetation Communities**

Habitat Types/Vegetation Communities	Code <sup>1</sup>	Habitat Group	Total Acreage	Proposed Northerly Parcel Impacts (acres)	Proposed Southerly Parcel Impacts (acres)	Proposed ROW Impacts (acres)	Off-site Impacts (acres)	Total Acreage Impacted
Disturbed Southern Willow Scrub*	63320	A	0.07	—	—	—	—	—
Mulefat scrub*	63310	A	0.40	—	0.07	0.04	0.04	0.15
Non-Vegetated Channel*	64200	A	0.24	0.07	0.07	0.01	0.03	0.18
Disturbed Wetland*	11200	A	0.07	—	0.04	0.03	—	0.07
<i>Subtotal</i>			<i>0.77</i>	<i>0.07</i>	<i>0.18</i>	<i>0.08</i>	<i>0.09</i>	<i>0.42</i>
<i>Non-Sensitive Vegetation Communities</i>								
Disturbed Habitat	11300	F	3.05	0.02	—	2.29	0.57	2.88
Urban/Developed	12000	F	6.22	0.48	0.32	2.46	2.98	6.22
Row Crops	18320	F	170.54	94.77	59.20	4.45	1.00	159.43
Non-Native Woodland	79000	F	0.57	—	0.36	0.21	—	0.57
Eucalyptus Woodland	79100	F	0.10	0.10	—	—	—	0.10
<i>Subtotal</i>			<i>180.48</i>	<i>95.37</i>	<i>70.68</i>	<i>9.40</i>	<i>4.55</i>	<i>169.20</i>
<b>Total</b>			<b>181.27</b>	<b>95.44</b>	<b>60.06</b>	<b>9.49</b>	<b>4.63</b>	<b>169.62</b>

Source: Appendix E.

**Notes:**

\* Requires mitigation by the Oceanside Subarea Plan (see Table 5-2 of the Plan).

<sup>1</sup> Holland (1986) as modified by Oberbauer et al. (2008).

Impacts to native upland vegetation and riparian/wetland habitats are considered significant under the Oceanside Subarea Plan and require mitigation. Vegetation communities considered sensitive are those listed in Habitat Groups A through E (City of Oceanside 2010). Direct impacts to 0.02 acres of southern arroyo willow riparian forest, 0.15 acres of mulefat scrub, 0.18 acres of non-vegetated channel, and 0.07 acres of disturbed wetland, which are all in Habitat Group A of the Oceanside Subarea Plan, would be a potentially significant impact. Implementation of MM-BIO-2, which requires preservation in accordance with the Oceanside Subarea Plan, would reduce to this impact to a less-than-significant level.

Impacts to disturbed habitat, urban/developed land, row crops, non-native woodland, and eucalyptus woodland are not considered significant because these land covers are not considered special status.

## Indirect Impacts

It is assumed that the potential short-term indirect impacts to off-site adjacent vegetation communities resulting from construction activities may include dust, general human presence, and construction-related soil erosion and runoff. However, project grading will be subject to the implementation of BMPs and typical restrictions and requirements that address dust control, erosion, and runoff, including the federal Clean Water Act and National Pollution Discharge Elimination System. Refer to Section 4.3, Air Quality, and Section 4.10, Hydrology and Water Quality, regarding dust and erosion/runoff control required of the proposed project during construction. Therefore, given these avoidance and minimization measures (including those required by Section 5.2.8 of the Oceanside Subarea Plan), short-term indirect impacts to vegetation communities would be less than significant.

Potential long-term indirect impacts to vegetation communities may also occur as a result of the proposed project through introduction of non-native species, increased human presence, and changes in hydrology. Refer to Section 4.10 regarding long-term operational BMPs and stormwater design, which would control adverse edge effects following construction. Therefore, impacts would be less than significant.

There are limited native vegetation communities adjacent to the project site. Riparian vegetation communities associated with the San Luis Rey River occur west of the project site. The majority of the surrounding area is developed and mostly vegetated and maintained with ornamental species. The Oceanside Subarea Plan requires a 100-foot buffer of the San Luis Rey River. Approximately 1.50 acres are expected to be impacted within that buffer as a result of the proposed project. Analysis regarding potential impacts to this buffer are discussed below.

***Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?***

## Direct Impacts

The proposed project would result in direct permanent impacts to approximately 0.65 acres of jurisdictional resources as summarized in Table 4.4-5 and shown on Figures 4.4-3a and 4.4-3b. Approximately 0.44 acres of ACOE/RWQCB/CDFW-jurisdictional area would be impacted, including 0.02 acres of impacts to wetlands/riparian habitat and 0.42 acres of impacts to non-wetland waters/streambed. In addition, the proposed project includes approximately 0.22 acres of impacts to CDFW-only jurisdictional riparian habitat. Impacts to riparian/wetland habitats are considered significant under the Oceanside Subarea Plan and require mitigation. Vegetation communities considered sensitive are those listed in Habitat Groups A through E (City of Oceanside 2010).

As shown previously in Table 4.4-4, the proposed project's impacts to 0.65 acres of wetlands and waters includes impacts to 0.42 acres of vegetation communities listed in Habitat Group A. In other words, the affected Habitat Group A vegetation communities are those associated with the affected wetlands and waters. The proposed project would result in direct impacts to 0.02 acres of southern arroyo willow riparian forest, 0.15 acres of mulefat scrub, 0.18 acres of non-vegetated channel, and 0.07 acres of disturbed wetland, which are in Habitat Group A of the Oceanside Subarea Plan; this would be considered a potentially significant impact. Implementation of MM-BIO-2, which requires preservation in accordance with the Oceanside Subarea Plan, would reduce to this impact to a less-than-significant level.

**Table 4.4-5  
Direct Permanent Impacts to Jurisdictional Resources**

Jurisdiction	Vegetation Community	Total Acreage	Northerly Parcel Impacts (acres)	Southerly Parcel Impacts (acres)	Proposed ROW (acres)	Off Site Impacts (acres)	Total Impacted Acreage
ACOE/RWQCB Non-Wetland Waters/CDFW Streambed	Non-Vegetated Channel	0.47	0.14	0.16	0.02	0.10	0.42
ACOE/RWQCB Wetland/CDFW Riparian Habitat	Southern arroyo willow riparian forest	0.02	—	—		0.02	0.02
CDFW only Riparian Habitat	Mulefat Scrub	0.40	—	0.07	0.04	0.04	0.15
	Disturbed Wetland	0.07	—	0.04	0.03	—	0.07
	Disturbed Southern Willow Scrub	0.07	—	—		—	—
<b>Grand Total</b>		<b>1.02</b>	<b>0.14</b>	<b>0.27</b>	<b>0.09</b>	<b>0.16</b>	<b>0.65</b>

Source: Appendix E.

### Indirect Impacts

The proposed project's construction-related indirect impacts to jurisdictional resources would be temporary and could include dust, general human presence, and construction-related soil erosion and runoff. However, project grading will be subject to the implementation of BMPs and typical restrictions and requirements that address dust control, erosion, and runoff, including the federal Clean Water Act and National Pollution Discharge Elimination System. Refer to Sections 4.3 and 4.10 regarding dust and erosion/runoff control required of the proposed project. Impacts would be less than significant.

Potential long-term indirect impacts to jurisdictional resources may also occur as a result of the proposed project through introduction of non-native species, increased human presence, and changes in hydrology. Refer to Section 4.10 regarding long-term operational BMPs and stormwater design, which would control adverse edge effects following construction. Impacts would be less than significant.

***Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?***

The project site itself is not located within a movement corridor and does not facilitate movement of wildlife species because of its close proximity to other disturbed and developed sites. Thus, implementation of the proposed project would not directly impact wildlife movement. The proposed project would not affect the ability for wildlife movement that could occur within the San Luis Rey River to the south. Therefore, direct and indirect impacts would be less than significant.

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

The City's General Plan requires the preservation of biological resources or, where vegetation and habitat modification is inevitable, appropriate mitigation for potential impacts. As required by the City's General Plan, a BTR has been prepared for the proposed project (Appendix E), and the result of its analysis has been incorporated into this EIR. The BTR includes field surveys, jurisdictional delineation, and literature review to assess potential impacts to sensitive biological resources that would result from implementation of the proposed project. The surveys to identify biological resources potentially impacted by the proposed project were performed in accordance with applicable plans, policies, and ordinances set forth by the Wildlife Agencies and the City, as well as current industry standards. As described in Appendix E and in this section, the proposed project would have potentially significant impacts to sensitive biological resources, and appropriate mitigation measures in compliance with the Oceanside Subarea Plan and applicable federal, state, and local codes are required. Therefore, the proposed project would not conflict with any local policies or ordinances protecting biological resources, and impacts would be less than significant.

***Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?***

The proposed project is within the Oceanside Subarea Plan, a draft plan used as a guidance document for projects in the City. The proposed project is consistent with the requirements of the Oceanside Subarea Plan. Specifically, as required in Section 5.3.4 of the Oceanside Subarea Plan, the proposed project would mitigate for impacts to biological resources within the Off-Site Mitigation Zone with mitigation within the Wildlife Corridor Planning Zone or pre-approved Mitigation Areas (City of Oceanside 2010). The proposed project would directly impact the 0.42 acres of sensitive vegetation communities that would require mitigation under the Oceanside Subarea Plan. These vegetation communities do not function as a habitat corridor and have little habitat value for wildlife due to their isolation from a larger habitat corridor and small patch size. Therefore, mitigation occurring within the riparian corridor of the San Luis Rey River would

provide preservation of biologically superior habitat, as well as fulfillment of the requirements of the Oceanside Subarea Plan for habitat in the Off-Site Mitigation Zone.

The project site is within the Agricultural Exclusion Zone as defined in Section 5.3.3 of the Oceanside Subarea Plan and is actively managed up to the edge of the San Luis Rey River. Although the majority of the site would be converted to non-agricultural uses, surveys for Stephens' kangaroo rat (*Dipodomys stephensi*) and arroyo toad are not required due to the presence of exclusionary fencing and a small berm, which precludes these species from entering the site. The area between the proposed project and the San Luis Rey River will continue to be maintained and operated as active agricultural lands.

In addition, although impacts would occur within the buffer of the San Luis Rey River, they would occur primarily within agricultural land (0.58 acres), developed land (0.36 acres), and disturbed habitat (0.31 acres). The remaining impacts are to 0.15 acres of mulefat scrub, 0.02 acres of non-vegetated channel, 0.07 acres of disturbed wetlands, and 0.02 acres of southern arroyo willow riparian forest. Therefore, there would be a total of 1.50 acres of impacts within the 100-foot buffer of the San Luis Rey River. Impacts within the buffer are required for improvements to N. River Road and for some off-site improvements. These improvements are required to support the proposed project and do not fall under one of the three prohibited uses within the buffer.

Of the 1.50 acres of impacts within the 100-foot buffer, 0.58 acres of existing agriculture and the existing road and adjacent disturbed habitat (0.67 acres) would remain. However, impacts to 0.26 acres of native habitat within the 100-foot buffer of the San Luis Rey River would be potentially significant. This impact includes 0.07 acres of disturbed wetland, 0.15 acres of mulefat scrub, 0.02 acres of non-vegetated channel, and 0.02 acres of southern arroyo willow riparian forest. Implementation of MM-BIO-2, which requires preservation in accordance with the Oceanside Subarea Plan, and MM-BIO-3, which requires revegetation of slopes, would reduce potentially significant impacts to a level below significance.

#### 4.4.5 Mitigation Measures

The following mitigation measures would reduce potentially significant impacts to biological resources to a level below significance.

**MM-BIO-1** If construction of the proposed project is scheduled to occur during avian breeding season (January 15 to August 3) a pre-construction nesting bird survey shall be conducted within 10 days prior to the start construction to avoid impacts to these species. Impacts from construction-related noise may occur to wildlife if construction occurs during the breeding season (i.e., February 15–August 31 for most bird species and January 1–August 31 for raptors). Protection of general avian wildlife in compliance with the Migratory Bird Treaty Act and California

Code shall be accomplished by either scheduling construction between July 15 and February 15, or if construction must occur during the nesting season (February 15–July 15), a one-time biological survey for nesting bird species shall be conducted in all suitable habitat for the presence of nesting birds by a qualified biologist 72 hours prior to the commencement of work. If any active nests are detected, the area shall be flagged and mapped on construction plans along with a minimum 25-foot buffer up to a 300-foot maximum for raptors, as determined by the qualified biologist. These areas shall be avoided until the nesting cycle is complete or it is determined that the nest has failed.

- MM-BIO-2** Impacts to 0.02 acres of southern arroyo willow riparian forest, 0.15 acres of mulefat scrub, 0.18 acres of non-vegetated channel, and 0.07 acres of disturbed wetland shall be mitigated through the purchase of 0.61 acres of riparian habitat located within the San Luis Rey Mitigation Bank (also known as the Singh Property) located on the San Luis Rey River north of State Route 76 and south of N. River Road in the City of Oceanside, San Diego County, California.

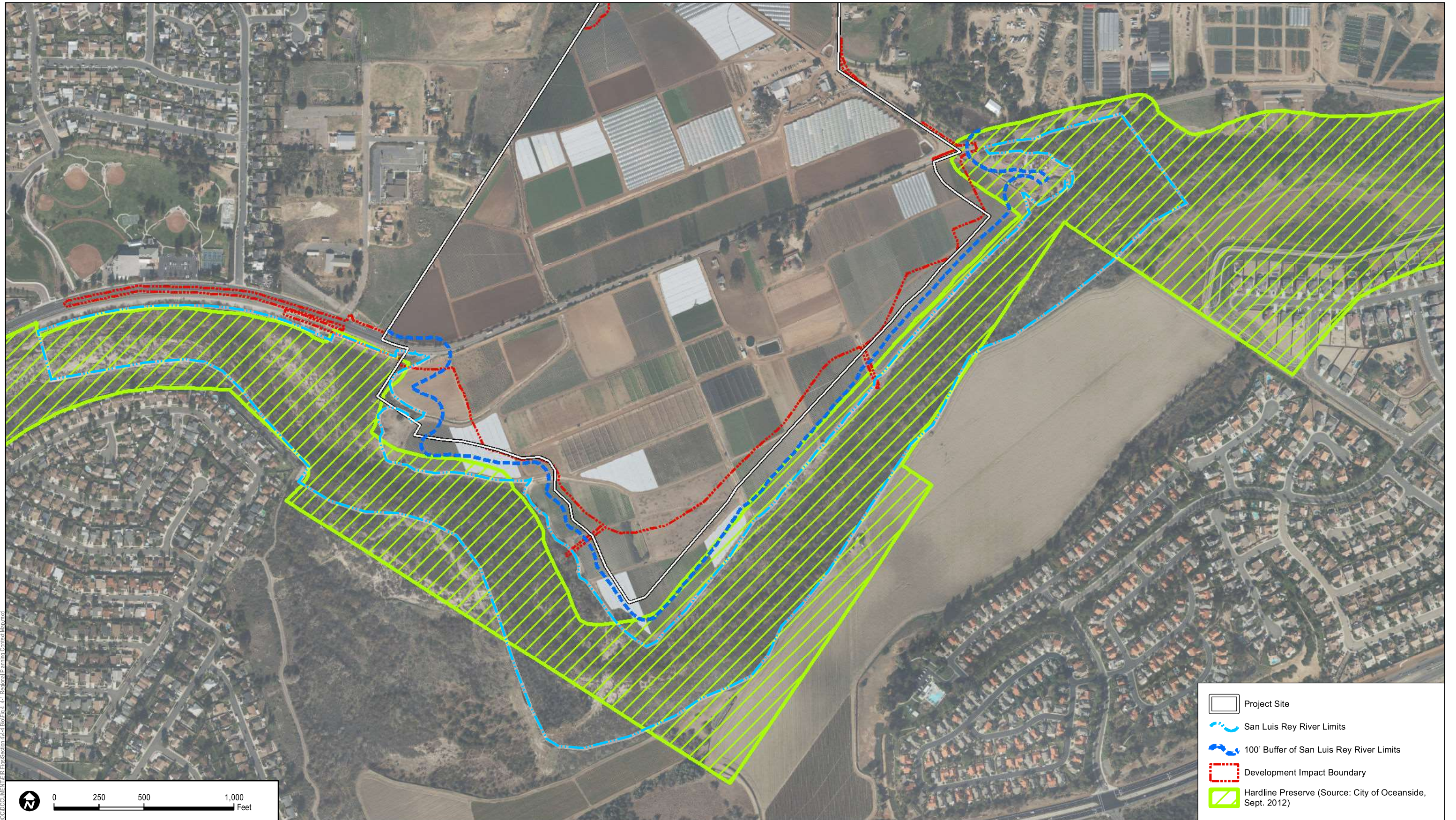
Mitigation shall be provided in accordance with the mitigation ratios provided in Table 5-2 of the Oceanside Subarea Plan. Impacts to riparian forest within the Agricultural Exclusion Zone require a 3:1 ratio. Therefore, impacts to 0.02 acres of southern arroyo willow riparian forest require 0.06 acres of mitigation. Impacts to riparian scrub within the Agricultural Exclusion Zone require a 2:1 ratio. Impacts to 0.15 acres of mulefat scrub require 0.30 acres of mitigation. Impacts to natural flood channels and disturbed wetlands within the Agricultural Exclusion Zone require a 1:1 ratio. Impacts to 0.18 acres of non-vegetated channel and 0.07 acres of disturbed wetland require 0.25 acres of mitigation. In total, 0.61 acres of mitigation shall be provided.






- MM-BIO-3** In accordance with the Oceanside Subarea Plan, the slope along the road in the western portion of the site where minor impacts would occur to native habitats within the 100-foot buffer of the San Luis Rey River shall be revegetated with native habitat. In addition, the buffer shall be fully fenced to preclude trespass.

#### 4.4.6 Level of Significance After Mitigation

With incorporation of MM-BIO-1 through MM-BIO-3, potentially significant impacts to biological resources would be reduced to a level below significance.

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-  Project Site
-  San Luis Rey River Limits
-  100' Buffer of San Luis Rey River Limits
-  Development Impact Boundary
-  Hardline Preserve (Source: City of Oceanside, Sept. 2012)

0 250 500 1,000 Feet

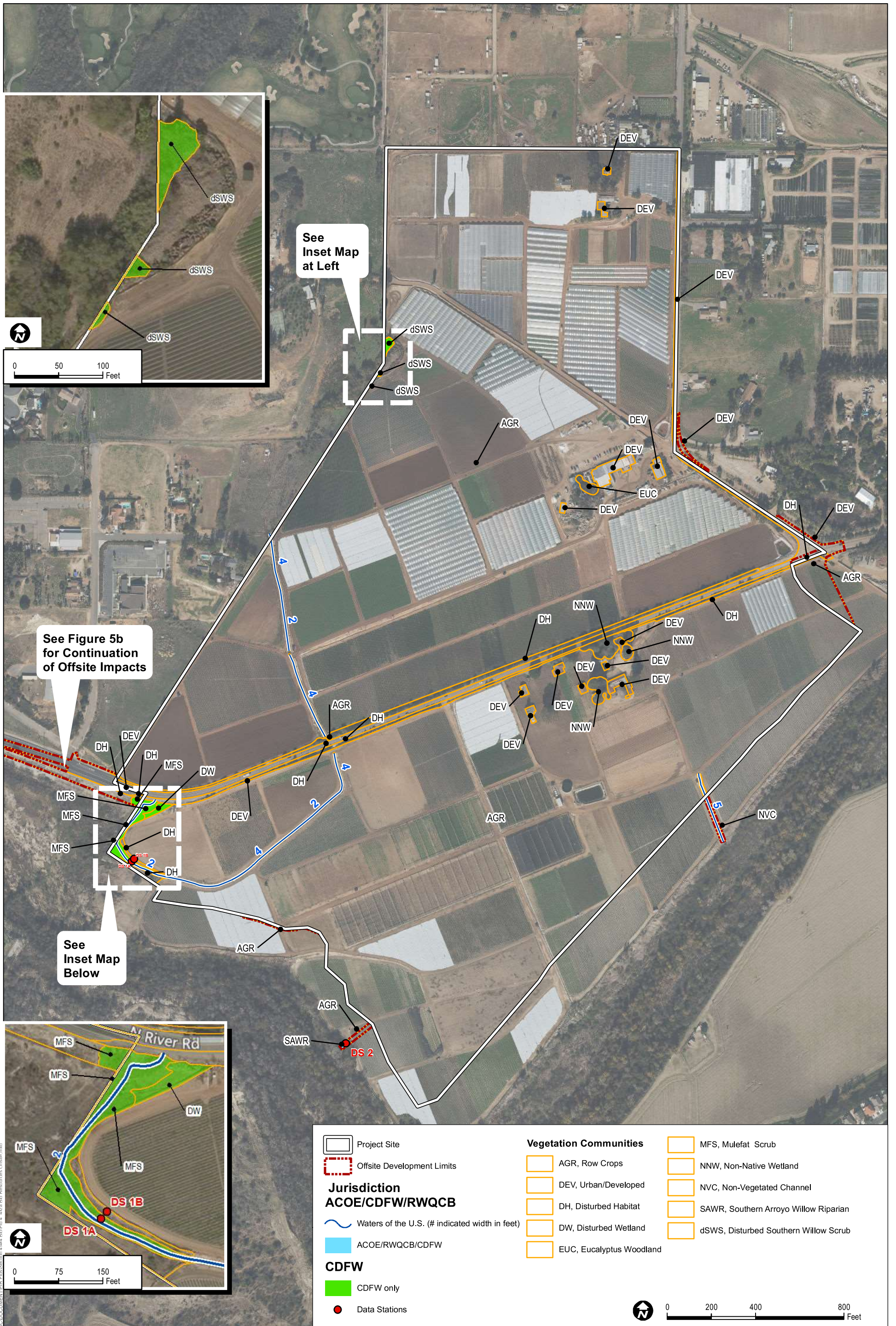
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**FIGURE 4.4-1**  
**Regional Planning Context Map**  
 North River Farms Planned Development Plan EIR

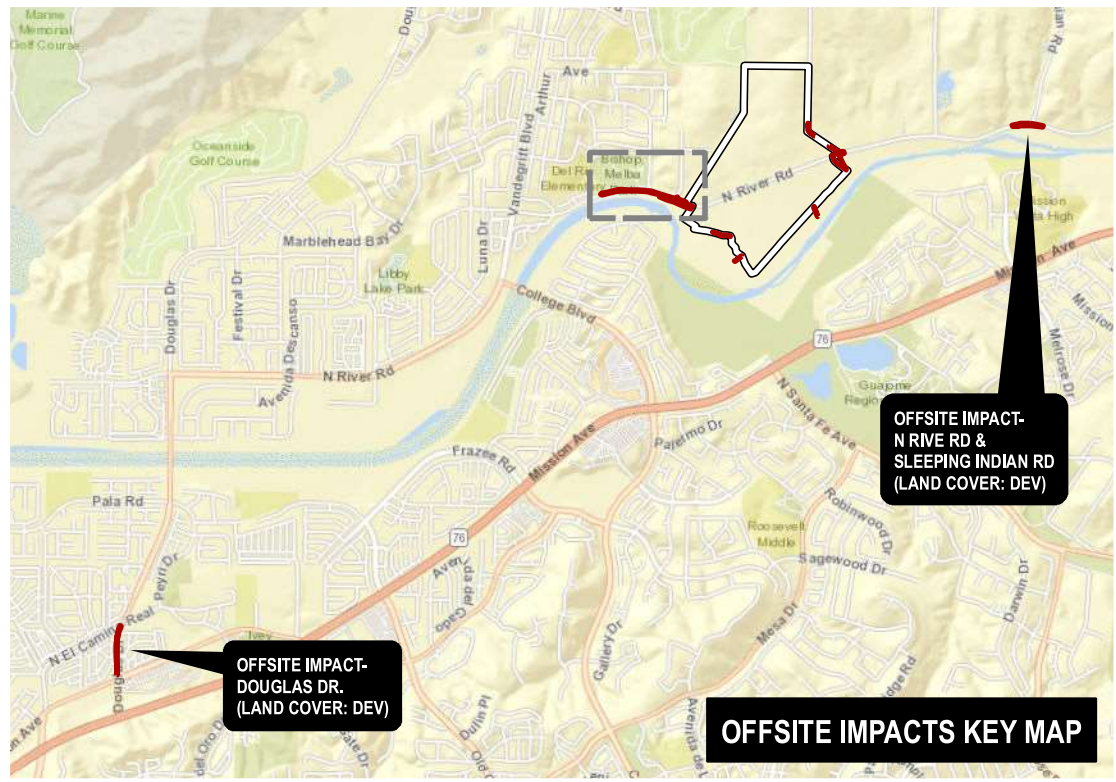
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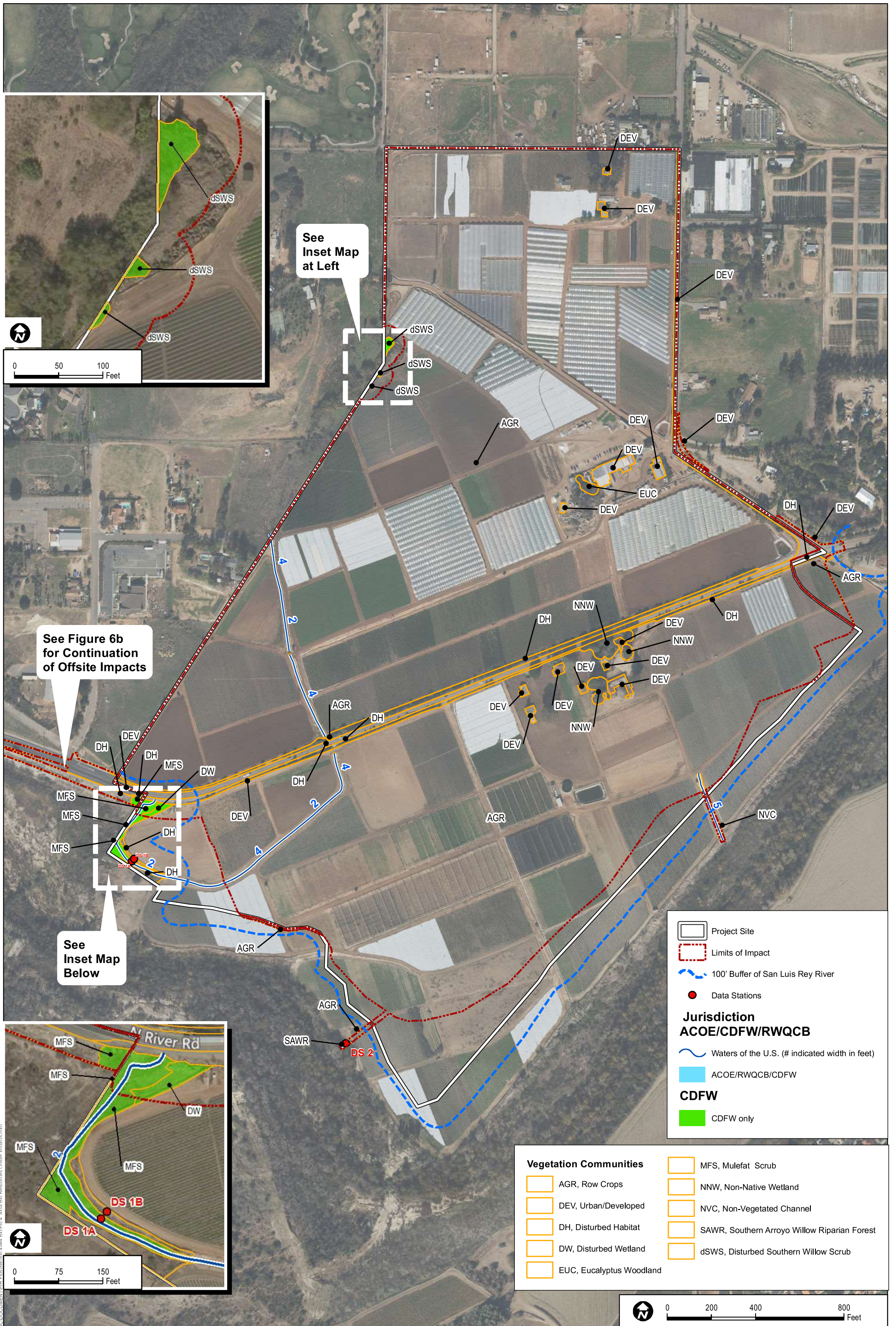


**FIGURE 4.4-2b**  
**Biological Resources Map**

North River Farms Planned Development Plan EIR

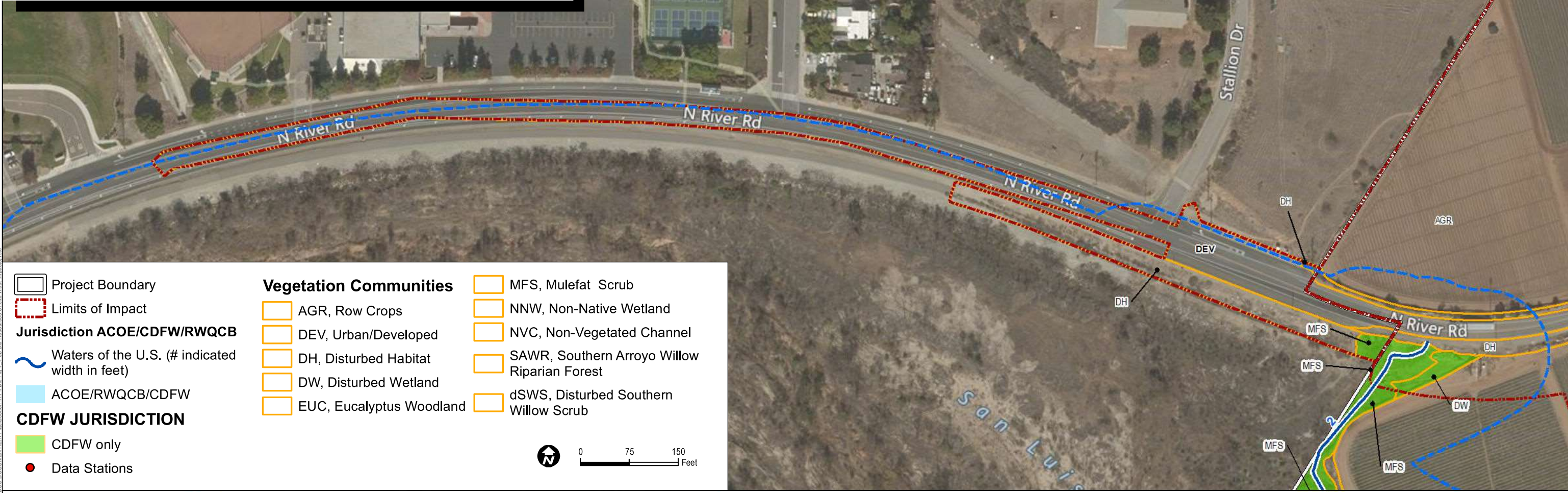
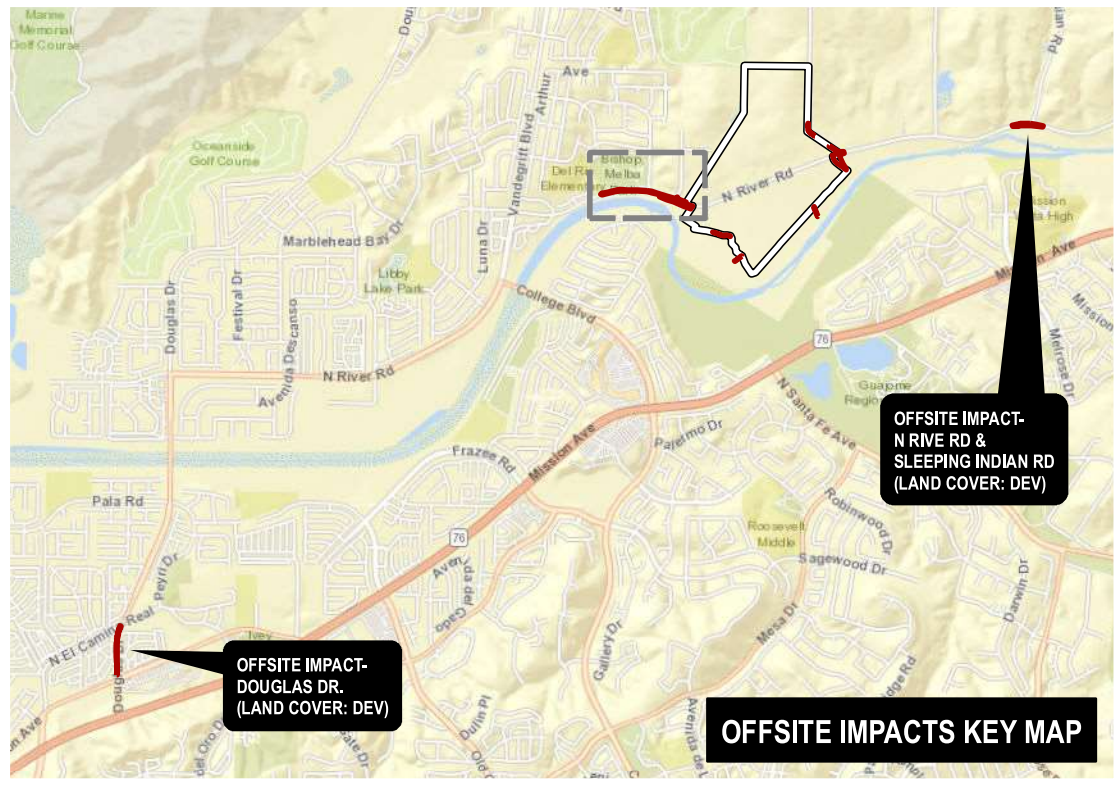
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**FIGURE 4.4-3b**  
**Biological Resources Map with Limits of Impact Map**

North River Farms Planned Development Plan EIR

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## 4.5 CULTURAL RESOURCES

This section describes the existing cultural resources of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures as necessary related to implementation of the proposed North River Farms Planned Development (PD) Plan (proposed project). The following analysis is based upon the following studies:

- Archaeological, Built Environment, and Paleontological Resources Survey Report, prepared by Dudek in May 2018 (Appendix F1 of this EIR)
- Historical Resources Technical Report for North River Farms, prepared by Dudek in June 2018 (Appendix F2 of this EIR)

### 4.5.1 Existing Conditions

#### 4.5.1.1 Environmental and Geological Setting

The project site is located in the Peninsular Range Geomorphic Province within the greater California batholith, which was formed by volcanic uplift of intrusive igneous rock resulting from the subduction of the Pacific Plate underneath the North American Plate (Abbott 1999). This formation is typical of the steep, elongated valleys surrounded by well-rounded hills and mesas of moderate relief. The project site is mapped as young alluvial deposits of the Holocene and latest Pleistocene, consisting of unconsolidated sand, silt, and clay, and very old surficial deposit of the Pleistocene, consisting of moderately well-indurated, cross-bedded sandstone containing sparse cobble- to boulder-conglomerate beds (Morton and Kennedy 2003a, 2003b).

The underlying geologic boundaries of the project site generally correspond to the subtle slope changes described above. There are three primarily geologic conditions on site:

- **Modern Floodplain Deposits:** These deposits are mainly coarse-grained (sand and gravel) deposits located south of N. River Road and are associated with the San Luis Rey River. These deposits are mapped as primarily late Holocene in age and are generally conterminous with the 100-year floodplain.
- **Older Alluvial Floodplain Deposits:** These deposits are older (i.e., between 10,000 and 500,000 years old) and are slightly more consolidated than the modern floodplain below N. River Road. Older alluvial deposits are also slightly elevated relative to younger deposits, and tend to contain layers of clay and silt in addition to sand and gravel.
- **Cretaceous Bedrock:** The northern portion of the study area that exhibits relief is underlain by granitic rock (i.e., tonalite) that is Cretaceous in age. Overlying soils are derived from weathering of this granitic rock.

Refer to 4.8, Geology and Soils, for additional detailed information regarding the proposed project's geologic setting.

#### **4.5.1.2 Prehistoric Context and Historic Period**

Evidence for continuous human occupation in Southern California spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad time frame have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. The research presented in Appendix F1 and summarized in this section employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (pre-5500 BC), Archaic (8000 BC–AD 500), Late Prehistoric (AD 500–1750), and Ethnohistoric (post-AD 1750). Refer to Appendix F1 for a full description of these periods. Additional descriptions of the Historical Period is also provided in Appendix F1.

#### **4.5.1.3 Existing Archaeological, Historical, and Paleontological Resources**

##### **4.5.1.3.1 Research Methodology**

##### **Archaeological Resources**

Dudek Archaeologist Scott Wolf and Archaeological Field Technician Kent Smolik conducted an intensive pedestrian survey of the project site on September 2, 2014. The archaeologists inspected areas throughout the project site, and specifically visited sites previously identified in the SCIC records. Visibility was largely obscured by vegetation (farm crops), allowing for less than one-quarter of the ground surface to be directly viewed in many areas. This partially precluded systematic survey in some areas. The access roads and the un-developed areas bordering the agriculture fields were intensively surveyed. Visibility along the access roads was extremely high, while the visibility in the un-developed border areas was extremely low, mainly due to ground covering vegetation. The standards for this survey exceeded the applicable Secretary of Interior Professional Qualifications Standards for archaeological survey and evaluation. When possible, the applicable project area of potential effect (APE) was subject to a 100% survey with transects spaced no more than 15 meters apart wherever possible and oriented in cardinal directions; however, much of this was not possible due to the active crop fields.

The survey crew was equipped with a Global Positioning System (GPS) receiver with sub-meter accuracy. Location-specific photographs were taken using an Apple 3rd Generation IPAD equipped with 8 MP resolution and georeferenced PDF maps of the project site. Accuracy of this device ranged between 3 meters and 10 meters. The survey crew searched for evidence for buried

cultural deposits through inspection of natural or artificial erosion exposures and the spoils from rodent burrows. While no new sites or deposits were identified during the survey, one new prehistoric isolated milling slab fragment (RF2014-Iso-01) was identified within the project APE. The Dudek archaeologists completed field notes and took photographs of previously recorded sites and the APE to document the resources within the project site.

Dudek archaeologists Scott Wolf and Patrick Hadel implemented a Phase II testing program of prehistoric bedrock milling site CA-SDI-16083 on March 28, 2018 with the intent of evaluating this resource's eligibility to be listed on the CRHR. P.J. Stoneburner, Native American Monitor for the San Luis Rey Band of Mission Indians, was present to observe all testing activities. Based on inspection of the setting, it was clear that past widespread earth-moving activities had been completed in the area and resulted in substantial disturbances to surrounding soils and shifting of the surrounding bedrock.

To assess the significance of the site, all features were mapped, photographed, and recorded in detail through close-interval survey and excavation of eight 0.25- x 0.5-meter shovel test pits (STPs) in 20-centimeter arbitrary levels was completed from the surface to depths of 20–40 centimeters below the surface (cmbs). This served to provide information relating to the disturbed subsurface character of the site and demonstrated the absence of buried archaeological deposits. STPs were placed in areas with the highest potential to support subsurface deposits and stable subsurface formations. All soils were screened through 1/8-inch wire mesh and sidewalls of shovel probes were visually inspected for cultural material. STPs were terminated upon encountering bedrock or after 40-centimeter of negative cultural yield. No artifacts were identified on the surface or through subsurface testing.

Documentation of cultural resources complied with the Office of Historic Preservation (OHP) and Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716–44740) and the California Office of Historic Preservation Planning Bulletin Number 4(a). All sites identified during this inventory were recorded on California Department of Parks and Recreation Form DPR 523 (Series 1/95), using the Instructions for Recording Historical Resources (Office of Historic Preservation 1995).

### **Built Environment Resources**

Dudek Architectural Historian Samantha Murray conducted a pedestrian inventory of historical-era buildings throughout the property on October 6, 2014. All buildings of 45 years in age or older were photographed and recorded. SCIC and OHP records, as well as historical maps and aerials, were reviewed. Initial examination of permits and other archival information was provided through consultation with the City of Oceanside (City) building department, Oceanside Historical Society, and County of San Diego (County) Assessor and Realty Office.

Further study of the potential historic significance of the 14 buildings and structures on the project site over 45 years of age was conducted between March and June 2018 by Dudek Architectural Historian Kara R. Dotter (Appendix F2). Archival resources were reviewed for information relating to the project site and its structures. Aerial images from the University of California, Santa Barbara, and Nationwide Environmental Title Research LLC, as well as Google Streetview images, were reviewed. Historical topographic maps produced by the U.S. Geological Survey were also consulted. Information was gleaned from newspapers published at the time. Information relating to building/permit records or water and sewer connection records was not available from the County Assessor's Office.

Additionally, there was no information available from the Oceanside Historical Society; however, they recommended contacting John Daley, a local historian who lived near the project site (Appendix F2). Subsequent conversations with Mr. Daley indicated that the southern portion of the project site was once known as Camelot Ranch and possibly owned by a daughter of Walter and Cordelia Knott, the founders of Knott's Berry Farm (Appendix F2). Mr. Daley stated he had no information relating to the northern portion of the project site (Appendix F2).

### **Paleontological Resources**

A paleontological records search was conducted by the Department of PaleoServices at the San Diego Natural History Museum (SDNHM). Museum collections records were searched for the purposes of determining whether there are any known fossil localities in or near the project site, identifying the geologic units present in the project site, and determining the paleontological sensitivity ratings of those geologic units in order to assess potential impacts to nonrenewable paleontological resources. Geologic maps and reports were also reviewed to identify geologic units on the site and establish the stratigraphy on site; the results compose the description of the physical setting provided earlier in this section.

A pedestrian survey of the project site was conducted on September 2, 2014, by Dudek. Subsurface exposures and appropriate landforms were opportunistically sought out and inspected for their potential to contain fossil specimens or features.

#### **4.5.1.3.2 Results**

##### **Records Search Results**

A SCIC record search conducted by Dudek on August 21, 2014, identified 57 previous cultural resources studies to have been performed within 0.5 miles of the project site. As shown on Table 4.5-1, three of these studies have covered areas that intersect at least a portion of the project site; all were north of N. River Road. SCIC records indicate that 14 archaeological sites have been recorded within the 0.5 miles records search area. One of these archaeological sites (CA-SDI-16083) is located within the project site. An additional archaeological (CA-SDI-12241) site has been recorded directly adjacent to the project site.

SCIC records were reviewed for historical addresses and other built environment resources. No historical-era buildings or other features have been recorded previously within the project site.

Of the three cultural resources investigations that have included the project site, the 103-acre intensive pedestrian survey conducted by Robert Case (2001) is the most pertinent to the proposed project. This study covered the entirety of the project site north of N. River Road. In addition to the two previously mentioned archaeological resources that were identified during the SCIC records search, Case’s study also recorded and collected a single isolated quartz archaic dart point within a recently disturbed portion of the agricultural field.

At least one historic-era (likely 1930s) structure was noted by Case to be present within the northern portion of the project site. The structure was observed to be present on the 1941 USGS Santa Margarita 15-Minute Series Map, indicating that the structure predates this map. Case recommended further historical research to be conducted of the structure’s construction and ownership history, as well its possible relationship to Guajome Ranch.

**Table 4.5-1**  
**Previous Cultural Investigations within the Project Site**

NADB ID No.	Author	Date	Report Title
1134069	Ni Ghabhlain, Sinead	2011	Cultural and Historical Resources Study for the City of Oceanside General Plan-Circulation Element Update Program Environmental Impact Report (PEIR)
Report Not on File at the SCIC	Case, Robert	2001	Cultural Resources Survey of the Proposed 103-Acre Northeast Valley Middle School/ High School, Oceanside, California. Prepared for Oceanside Unified School District
1126790	White, Robert	1991	An Archaeological Assessment of a 2.75 Acre Parcel Located Immediately Northeast of the Intersection of Stallion Drive and North River Road in Oceanside, San Diego County.

Source: Appendix F1.

As indicated by the records search, two archaeological sites have been previously identified within (or adjacent to) the project site. Because the surface of the project site has been used for agricultural purposes for an extended period of time, it is unlikely for archaeological resources to be identified during pedestrian survey unless large and immobile cultural features are present. As shown in Table 4.5-2, the site that has been recorded within the project site (CA-SDI-16083) is principally composed of a number of milling features situated on large granitic boulders.

**Table 4.5-2**  
**Previously Recorded Archaeological Resources within 0.5 Mile of the Project Site**

Primary No.	Trinomial No.	Age	Description	In/Out of APE
37-001248	CA-SDI-1248	Prehistoric	Bedrock milling feature	Out
37-001266	CA-SDI-1266	Prehistoric	Prehistoric artifact scatter; Multiple loci	Out
37-001267	CA-SDI-1267	Prehistoric	Bedrock milling feature and artifact scatter	Out
37-001268	CA-SDI-1268	Prehistoric	Bedrock milling feature and artifact scatter	Out
37-001269	CA-SDI-1269	Prehistoric	Prehistoric habitation/camp site	Out
37-001270	CA-SDI-1270	Prehistoric	Prehistoric artifact scatter	Out
37-001271	CA-SDI-1271	Prehistoric	Prehistoric habitation site/artifact scatter	Out
37-008088	CA-SDI-8088	Prehistoric	Prehistoric artifact scatter	Out
37-012241	CA-SDI-12241	Prehistoric	Prehistoric artifact scatter	Adjacent
37-014985	CA-SDI-14985	Prehistoric	Bedrock milling site	Out
37-019035	CA-SDI-13742	Prehistoric	Prehistoric artifact scatter	Out
37-019037	CA-SDI-13744	Prehistoric	Prehistoric artifacts scatter and possible midden deposit	Out
37-024246	CA-SDI-16083	Prehistoric	Bedrock milling site	In
37-028562	CA-SDI-18371	Prehistoric	Prehistoric artifact scatter	Out

Source: Appendix F1.

### Archaeological Field Survey Results

Dudek Archaeologists Scott Wolf and Kent Smolik conducted an intensive pedestrian cultural survey of the project site on September 2, 2014. Visibility was severely limited within many of the agricultural fields due to the presence of a number of low-lying vegetative crops. The area has been subject to a number of agricultural-related disturbances, including grading, plowing, and installation of flood control features. Archaeologists re-located CA-SDI-16083 at its previously recorded location. No surface artifacts were observed in the project site adjacent to CA-SDI-12241. A newly recorded isolated portable milling slab (RF2014-ISO-01) was recorded within the southern portion of the project site. DPR form updates have been prepared for both of the previously recorded sites, and the isolated find has been documented within a DPR Primary Form and Location Map.

#### ***CA-SDI-16083***

This prehistoric bedrock milling site, measuring approximately 35 by 20 meters, is composed of a granitic boulder outcrop surrounded on all sides by active agricultural fields, on a very slight south-facing slope. No artifacts were observed at the site. A total of 6 milling features with a total of eleven (11) milling slicks were originally identified in the 2001 DPR Site form. Feature 1 includes five lightly weathered grinding slicks. Feature 2 consists of a single grinding slick remnant. Feature 3 consists of a single milling slick. Feature 4 consists of a single milling slick. Feature 5 consists of two milling slick surface. Feature 6 consists of a single milling slick. Sediment within and surrounding the site is brown sandy-silt loam. During the site visit, feature 4 was the only feature positively

identified and re-located. The previously recorded features 5 and 6 were tentatively re-located, but due to very vague previously documentation, these features were potentially, but not positively, re-identified. According to the DPR site form for SDI-16083 compared to the current physical conditions of this site, it is apparent that the southern portion of the site has been heavily disturbed since the 2001 documentation. The disturbance noted currently in the southern portion of the site includes evidence of broken and displaced bedrock boulders, large fragments of concrete, and a wooden pallet dump. Judging by the previously recorded site form, features 1, 2, and 3 were located within this heavily disturbed southern portion of the site.

### ***CA-SDI-12241***

This prehistoric site was first recorded in 1991 as an artifact scatter, measuring approximately 85 by 70 meters. Artifacts were noted to include 30 felsite, andesite, chert, and chalcedony flakes. Also recorded at this site was one granite metate fragment. While this site was not recorded within the project site boundaries, it is immediately adjacent (outside). Due to the location of this resource, the project site immediately adjacent to the recorded site was intensely surveyed. No artifacts were noted in the area. While this prehistoric site is located outside of project site boundaries, there was a high volume of disturbance noted in the recorded site location. The field with the site has been disked and/or plowed sometime in the recent past. No obvious artifacts were noted on the surface of the site and a moderate to high volume of modern trash and debris (such as clay roof-tile fragments and plastic food and drink wrappers and bottles) was noted throughout the entire site area.

### ***RF2014-ISO-01***

RF2014-ISO-01 is a prehistoric portable milling slab fragment located just outside of the southern edge of the agricultural fields. The milling slab fragment is located along the base of a slight slope at the edge of the agricultural fields, in an area characterized as an alluvial and riparian river-bed just north of the San Luis Rey River. The fragmented uni-facially worked milling slab measures approximately 28.5 by 21 by 11.5 centimeters and demonstrates grinding wear and some slight pecking modification on the dorsal surface. The milling slab was located on the ground surface (not embedded into surrounding sediments) at the foot of the slope below the active agricultural fields and could very likely have been initially located elsewhere and displaced to the location it was recorded. No other artifacts or features were noted in association with this isolated milling slab fragment.

## **Archaeological Testing Results**

Dudek archaeologists Scott Wolf and Patrick Hadel implemented a Phase II Testing program of CA-SDI-16083 on March 28, 2018, with the intent of evaluating this resource's eligibility to be listed on the CRHR or NRHP. P.J. Stoneburner, Native American Monitor for the San Luis Rey Band of Mission Indians, was present to observe all activities. As noted above, SDI-16083 has been previously recorded as a prehistoric bedrock-milling site with up to 11 grinding slicks distributed among 6 boulders. The site reportedly measures approximately 35 (N/S) x 20 (E/W)

meters. The site is located in an extremely disturbed area within the project site, surrounded by active agricultural fields. Evaluation efforts included close-interval survey, documentation of all archaeological features, and excavation of 8 STPs in areas with the greatest potential to support the presence of subsurface cultural deposits (Table 4.5-3).

**Table 4.5-3  
Summary of CA-SDI-16083 Subsurface Testing Efforts**

STP No.	Depth (cmbs)	Findings	Disturbances	Soil	Munsell
1	0–20	Negative	bioturbation, erosion	Sandy clay loam	10YR4/4
2	0–20	Negative	erosion	Sandy clay loam	10YR4/4
	20–31	Negative	bioturbation	Sandy clay with decomposing granite	7.5R4/8
3	0–21	Negative	bioturbation	Sandy loam	10YR4/4
4	0–20	Negative	erosion	Sandy clay with decomposing granite	10YR4/4 and 7.5R4/8
	20–40	Negative	bioturbation,	decomposing granite	7.5R4/8
5	0–20	Negative	bioturbation	Sandy clay with decomposing granite	10YR3/3 and 7.5R4/8
	20–35	Negative	bioturbation	Sandy clay loam with decomposing granite	10YR3/3 and 7.5R4/8
6	0–20	Negative	bioturbation, erosion	Sandy clay loam with decomposing granite	10YR3/3 and 7.5R4/8
	20–32	Negative	bioturbation,	Sandy clay loam with decomposing granite	10YR3/3 and 7.5R4/8
7	0–20	Negative	bioturbation, erosion	Sandy clay loam with decomposing granite	10YR4/4
	20–40	Negative	bioturbation	Sandy clay loam with decomposing granite	10YR4/4
8	0–20	Negative	bioturbation, erosion	Sandy clay loam with decomposing granite	10YR3/3 and 7.5R4/8
	20–40	Negative	bioturbation	Sandy clay loam with decomposing granite	10YR3/3 and 7.5R4/8

Source: Appendix F1.

The surface inventory at CA-SDI-16083 identified only two of six previously recorded bedrock-milling features and identified no artifacts on the ground surface within or near the previously recorded site boundary. Previously recorded Features 2 and 3 were positively re-located and fully documented. The boulder on which Feature 1 was previously identified was also re-located. However, no milling features were observed during initial survey efforts or as part of the subsequent evaluation. Features 4, 5, and 6 were not positively identified and do not appear to be present. A total of eight shovel test pits were excavated at CA-SDI-16083 in order to assess the location and subsurface character of the surrounding area. All eight of the STPs were negative; none yielded subsurface cultural material or soils indicative of a cultural deposit.

The surface inventory was negative and excavations at CA-SDI-16083 revealed that this site lacks subsurface cultural deposits. Sediments encountered in all of the excavations demonstrated a high level of disturbance in the entire area, with soils remaining the same both within and outside of the recorded site limits. No midden-like soil characteristics were observed. Many of the bedrock boulders examined at this site demonstrate signs of being moved (such as drill holes and bulldozer scars), broken and otherwise significantly disturbed. As artifacts were absent, no specific chronological markers were present. Based on these results, SDI-16083 appears to provide little additional scientific data potential. Refer to Appendix F1 for full site analysis descriptions.

### **Built Environment Field Survey Results**

Ms. Dotter conducted an intensive-level pedestrian survey of the two parcels on April 27, 2018. Ms. Dotter documented the fieldwork using field notes, digital photography, close-scale field maps, and aerial photographs (Appendix F2).

Dudek identified 14 buildings and structures within the project site. The following is a brief description of the surveyed buildings; refer to Appendix F2 for complete details and photographs regarding these structures.

Buildings 1 through 10, described below, are located on the southern side of the project site, southwest of the intersection of N. River Road and Wilshire Road, located at 5401 N. River Road:

- Building 1 is a front-gabled, two-car garage with board-and-batten exterior walls, and horizontal boards on the gable ends. The building rests on a concrete foundation.
- Building 2 is a single-story, brick, single-family residence with a hipped roof clad in tile similar in shape to the Decra Classic lightweight steel tile. The building has a Z shape in plan and rests on a concrete foundation.
- Building 3 is a small, single-story residence with a hipped roof clad in tile similar in shape to the Decra Classic lightweight steel tile. Rectangular in plan, the building has three brick walls and one stud wall clad in wood clapboards. The building rests on a concrete foundation.
- Building 4 is a single-story, single-family, Spanish Colonial Revival–style residence with a complex roof form clad in tapered half-barrel clay Mission tiles and Spanish S-shaped clay tiles. The building has a C-shape in plan, is clad in stucco and board-and-batten wood planks, and appears to rest on concrete foundations. Later alterations include 1950s-era stone work, cladding both fireplaces and forming a low wall along the southern edge of the courtyard; late twentieth century kitchen remodeling; and installation of sliding glass doors, air ducts, and wiring conduit.

- Building 5 is a single-story, one-room building with a front-gabled roof clad in asphalt composition shingles. The building has an earthen floor and may or may not have a perimeter foundation.
- Building 6 is a side-gabled residence with brick walls and a roof clad in tile similar in shape to the Decra Classic lightweight steel tile. The house appears to originally have been a duplex with enclosed patios on the east and west elevation, but at a later date, it was changed into a single-family residence.
- Building 7 is a single-story, brick, single-family residence with a hipped roof clad in tile similar in shape to the Decra Classic lightweight steel tile. The building has a Z shape in plan and rests on a concrete foundation.
- Building 8 is a double front-gabled residence clad in a variety of materials, including stucco, board-and-batten, and vertical wood planks, with asphalt shingles cladding the roof. The northern front-gabled section serves as a single-car garage with carriage-style wood garage doors, while the southern front-gabled section provides living space.
- Building 9 is a front-gabled residence, with an enclosed shed-roof addition to the east (main) elevation and two front-gabled additions to the western elevation. A smaller shed-roofed addition juts from the southern elevation.
- Building 10 is a one-story, brick, side-gabled residence with a large front-gabled addition on the western elevation. The roof is clad in asphalt shingles, and a large square chimney juts upward from the western elevation.

Buildings 11 through 14, as described below, are located on the northern side of the project site, northwest of the intersection of N. River Road and Wilshire Road, located at 297 Wilshire Road:

- Building 11 is a single-story, front-gabled residence clad in brick-patterned paper with a roof clad in rolled roofing material. The building is rectangular in plan, and the foundation is post-and-beam.
- Building 12 appears to be a residence but currently either serve as storage or be abandoned.
- Building 13 is a single-story, front-gabled residence designed in the Craftsman style. The building rests above a partial basement and is clad in stucco and wood clapboards. The roof is sheathed with wood and clad with deteriorating rolled asphalt roofing material.
- Building 14 is a single-story, side-gabled building with a couple of two-story additions to the southern elevation. The building is rectangular in plan and is predominately clad in stucco with some horizontal boards cladding the southwestern quadrant.

## Paleontological Resources

The result of the records search conducted by the Department of PaleoServices at the SDNHM is provided in Appendix F1. The search revealed no record of existing fossil localities that lie in or within a 0.5-mile radius of the project site. Furthermore, the pedestrian survey conducted by Dudek yielded no fossils or potentially fossiliferous materials on the surface (no subsurface exploration was conducted). This was expected as the surface of the site is disturbed by agricultural activities and lacks distinct rock outcroppings or road cuts from which fossils could be exposed.

The paleontological sensitivity of each of the rock units underlying the site was assessed as part of the records search conducted by the SDNHM. The aerial extent (in acres) of each unit within the site boundary was quantified in ArcMap through an intersection with a digital geologic database compiled by the California Geological Survey. The sensitivity determination for each geologic unit is described in Table 4.5-4.

**Table 4.5-4  
Paleontological Sensitivity of the Project Site**

Map Unit Symbol	Name	Paleontological Sensitivity	Comment
Qw	Active Wash/Stream Deposits (late Holocene)	Low	Due to young age and loosely consolidated nature of these deposits, any biological remains found are likely to be modern to sub-fossil. These areas may be underlain at unknown but potentially shallow depths by Qoa, which has a moderate sensitivity.
Qya	Active Alluvial Floodplain Deposits (late Holocene)		
Qoa	Older alluvial flood plain deposits (Pleistocene, younger than 500,000 years)	Moderate	Important vertebrate fossil remains have been collected from similar deposits in several sites throughout coastal San Diego County.
gr	Tonalite undivided (Cretaceous)	None	Tonalite was formed through the crystallization of magma several miles below the surface of the Earth. This means that there is no potential for the rock unit to yield fossils.

Source: Appendix F1.

## 4.5.2 Regulatory Setting

### Federal

#### *National Historic Preservation Act*

The National Historic Preservation Act (NHPA) (16 U.S.C. 470 et seq.) establishes the federal policy for preservation of historical resources, including archaeological sites, and sets in place a program for the preservation of historic properties by requiring federal agencies to consider effects to significant cultural resources (e.g., historic properties) prior to undertakings.

Section 106 of the NHPA requires federal agencies to take into account the effects of projects on historic properties (resources included in or eligible for the National Register of Historic Places (NRHP)). It also gives the Advisory Council on Historic Preservation and the state historic preservation offices an opportunity to consult.

### ***Executive Order 11593, Protection and Enhancement of the Cultural Environment***

Executive Order 11593 (36 FR 8921) (1) orders the protection and enhancement of the cultural environment through requiring federal agencies to administer the cultural properties under their control in a spirit of stewardship and trusteeship for future generations; (2) initiates measures necessary to direct their policies, plans, and programs in such a way that federally owned sites, structures, and objects of historical, architectural, or archaeological significance are preserved, restored, and maintained for the inspiration and benefit of the people; and (3) in consultation with the Advisory Council on Historic Preservation, institutes procedures to assure that federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures, and objects of historical, architectural, or archaeological significance (16 U.S.C. 470-1).

### ***National Register of Historic Places***

The NRHP is the nation's official list of historic places. The register is overseen by the National Park Service and requires that a property or resource eligible for listing in the register meet one or more of the following four criteria at the national, state, or local level to ensure integrity and obtain official designation:

- The property is associated with events that have made a significant contribution to the broad patterns of our history.
- The property is associated with the lives of persons significant to our past. Eligible properties based on this criterion are generally those associated with the productive life of the individual in the field in which the person achieved significance.
- The property embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic value, or represents a significant and distinguishable entity whose components lack individual distinction.
- The property has yielded, or is likely to yield, information important to prehistory or history.

In addition to meeting at least one of these four criteria, listed properties must also retain sufficient physical integrity of those features necessary to convey historic significance. The register has identified the following seven aspects of integrity: (1) location, (2) design, (3) setting, (4) materials, (5) workmanship, (6) feeling, and (7) association.

Properties are nominated to the register by the state historic preservation officer of the state in which the property is located, by the federal preservation officer for properties under federal ownership or control, or by the tribal preservation officer if on tribal lands. Listing in the NRHP provides formal recognition of a property's historic, architectural, or archaeological significance based on national standards used by every state. Once a property is listed in the NRHP, it becomes searchable in the NRHP database of research information. Documentation of a property's historic significance helps encourage preservation of the resource.

## **State**

### ***California Public Resources Code***

California Public Resources Code (PRC), Sections 5097–5097.6, identify that the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands is a misdemeanor. It prohibits the knowing destruction of objects of antiquity without a permit (express permission) on public lands, and it provides for criminal sanctions. This section was amended in 1987 to require consultation with the Native American Heritage Commission (NAHC) whenever Native American graves are found. Violations that involve taking or possessing remains or artifacts are felonies.

California Public Resources Code, Section 5097.5, states that “no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historic feature situated on public lands, except with the express permission of the public agency having jurisdiction over the lands.”

### ***California Register of Historical Resources and the California Environmental Quality Act***

CEQA requires that all private and public activities not specifically exempted be evaluated against the potential for environmental damage, including effects to historical resources. Historical resources are recognized as part of the environment under CEQA. The act defines historical resources as “any object, building, structure, site, area, or place that is historically significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California” (California Public Resources Code, Section 5020.1[j]).

Lead agencies have a responsibility to evaluate historical resources against the CRHR criteria prior to making a finding as to a proposed project's impacts to historical resources. Mitigation of adverse impacts is required if the proposed project will cause substantial adverse change. Substantial adverse change includes demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired. While demolition and destruction are

fairly obvious significant impacts, it is more difficult to assess when change, alteration, or relocation crosses the threshold of substantial adverse change.

The CEQA Guidelines provide that a project that demolishes or alters those physical characteristics of a historical resource that convey its historical significance (i.e., its character-defining features) is considered to materially impair the resource's significance. The CRHR is used in the consideration of historical resources relative to significance for purposes of CEQA. The CRHR includes resources listed in, or formally determined eligible for listing in, the National Register of Historic Places (NRHP) and some California State Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts), or that have been identified in a local historical resources inventory, may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise.

Generally, a resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing on the CRHR (PRC 5024.1; Title 14 California Code of Regulations (CCR) Section 4852), which include the following:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or
- It is associated with the lives of persons important to local, California, or national history; or
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; or
- It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value and are afforded protection under state (CEQA) laws and regulations. This study satisfies project requirements in accordance with CEQA (13 PRC, 2100 et seq.) and Public Resources Code Section 5097.5 (Stats 1965, c 1136, p. 2792). This analysis also complies with guidelines and significance criteria specified by the SVP (2010).

Paleontological resources are explicitly afforded protection by CEQA, specifically in Section V(c) of CEQA Guidelines Appendix G, the “Environmental Checklist Form,” which addresses the potential for adverse impacts to “unique paleontological resource[s] or site[s] or ... unique geological feature[s].” This provision covers fossils of significant importance – remains of species or genera new to science, for example, or fossils exhibiting features not previously recognized for a given animal group – as well as localities that yield fossils significant in their abundance, diversity, preservation, and so forth. Further, CEQA provides that generally, a

resource shall be considered “historically significant” if it has yielded or may be likely to yield information important in prehistory (PRC 15064.5 [a][3][D]). Paleontological resources would fall within this category. The PRC, Chapter 1.7, Sections 5097.5 and 30244 also regulates removal of paleontological resources from state lands, defines unauthorized removal of fossil resources as a misdemeanor, and requires mitigation of disturbed sites.

### ***California Health and Safety Code***

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. California Health and Safety Code, Section 7050.5, requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County Coroner has examined the remains (Section 7050.5b). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (Section 7050.5c). The NAHC will notify a Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 24 hours of notification of the MLD by the NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

### ***Assembly Bill 52***

AB 52, in effect as of July 1, 2015, introduces the tribal cultural resource (TCR) as a class of cultural resource and additional considerations relating to Native American consultation into CEQA. As a general concept, a TCR is similar to the federally defined TCP; however, it incorporates consideration of local and state significance and required mitigation under CEQA. A TCR may be considered significant if included in a local or state register of historical resources; determined by the lead agency to be significant pursuant to criteria set forth in PRC Section 5024.1; is a geographically defined cultural landscape that meets one or more of these criteria; or is a historical resource described in PRC Section 21084.1, a unique archaeological resources described in PRC Section 21083.2, or is a non-unique archaeological resource if it conforms with the above criteria. Because an assessment of project-related impacts on TCRs involves analytical requirements different from those that apply to impacts on archaeological resources, this EIR includes a separate discussion of TCRs in Section 4.18.

## Local

### *City of Oceanside General Plan*

Cultural resources are addressed in the Environmental Resources Management Element and the Land Use Element. The Environmental Resources Management Element identifies several important cultural sites, including the nearby Mission San Luis Rey, and encourages preservation of such sites when planning development. Specifically the Environmental Resource Management Element has the following objective for cultural sites:

- Encourage the conservation and protection of significant cultural resources for future scientific, historic, and educational purposes.

In order to achieve this objective, the City of Oceanside (City) will:

1. Encourage the use of “O” zoning and open space easements for the preservation of cultural sites.
2. Encourage private organizations to acquire, restore, and maintain significant historical sites.
3. Encourage investigation by the appropriate groups (i.e., museums, university students, etc.) to explore and record the significant archaeological sites in the areas and to forward this information to appropriate County agencies for inclusion in the San Diego County Natural Resources Inventory.

The Land Use Element provides designations for historic areas in order to preserve cultural resources. The Land Use Element states the following policy relevant to historic sites:

- **1.33 Historic Areas and Sites, Policy A:** The City shall utilize adopted criteria, such as the “Mission San Luis Rey Historic Area Development Program and Design Guidelines,” to preserve and further enhance designated historic or cultural resources.

The Land Use Element further contains the following policies regarding cultural and paleontological resources:

- **3.2A:** The City shall encourage open space land use designations and open space land use designations and open space zoning or open space easements for the preservation of cultural resources.
- **3.2B:** The City shall encourage the acquisition, restoration, and/or maintenance of significant cultural resources by private organizations.
- **3.2C:** Cultural resources that must remain in-situ to preserve their significance shall be preserved intact and interpretive signage and protection shall be provided by project developers.

- **3.2D:** An archeological survey report shall be prepared by a Society of Professional Archaeologists certified archaeologist for a project proposed for grading or development if any of the following conditions are met:
  1. The site is completely or largely in a natural state;
  2. There are recorded sites on nearby properties;
  3. The project site is near or overlooks a water body (creek, stream, lake, freshwater lagoon);
  4. The project site includes large boulders and/or oak trees; or
  5. The project site is located within a half-mile of Mission San Luis Rey.
- **3.2E:** The presence of agriculture on a potential project site shall not preclude the requirement for an archaeological survey report if any of the above listed conditions are established.
- **3.23A:** Paleontological survey reports shall be prepared by a qualified paleontologist approved by the City for all proposed projects that are located in the area designated as having a high potential for fossils on the City’s natural resource management data base system.

### ***City of Oceanside Historic Preservation Ordinance***

Chapter 14A of the City’s Municipal Code, referred to as the Historic Preservation Ordinance, identifies evaluation criteria under which a historical site or area may be designated in Section 14A.6, as follows (City of Oceanside 2018):

- a) It exemplifies or reflects special elements of the city’s cultural, social, economic, political, aesthetic, engineering, or architectural history; or
- b) It is identified with persons or events significant in local, state, or national history; or
- c) It embodies distinctive characteristics of a style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship; or
- d) It is representative of the notable work of a builder, designer, or architect; or
- e) It is found by the council to have significant characteristics which should come under the protection of this chapter.

### 4.5.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to cultural resources are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to cultural resources would occur if the proposed project would:

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

The CEQA Guidelines state that a project that demolishes or alters those physical characteristics of a historical resource that convey its historical significance (i.e., its character-defining features) can be considered to materially impair the resource's significance. To best mitigate the effects of a project on cultural resources, a lead agency must make a reasonable, good faith effort to determine their historical or archaeological character and eligibility for listing in the CRHR. Of the four primary CRHR criteria for making such recommendations listed in Section 4.5.2, Criterion 4 is most applicable for directing Phase I archaeological investigations. To be eligible for listing in the CRHR, a site must have "yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation" (PRC Section 5024.1; 14 CCR 4852).

### 4.5.4 Impacts Analysis

*Would the project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?*

Fourteen historical-era (greater than 45 years old) structures are present on the project site, located at 5401 N. River Road (southern parcel) and 297 Wilshire Road (northern parcel), as described in Section 4.5.1. These structures were evaluation against the NRHP/CRHR significance criteria (Appendix F2).

**Criterion A/1: That are associated with events that have made a significant contribution to the broad patterns of our history.**

Neither the southern parcel nor the northern parcel of the project site is associated with events that made a significant contribution to broad patterns of history. Although the land was associated with the Rancho Guajome land grant and the Coutts family, the existing buildings appear to have no

direct connection to the Coutts family. Additionally, the important portion of Rancho Guajome was the 1851 adobe ranch house. Built by Cave Coutts, the ranch house remained in the family until it was purchased, along with 165 acres, in 1973 by the County through a condemnation action. The ranch house and its grounds were located in the southwestern portion of the land grant at the opposite end from the northerly tract comprising the two parcels. Therefore, 5401 N. River Road and 297 Wilshire Road and their associated structures are recommended not eligible for listing in the NRHP/CRHR under Criterion A/1 (Appendix F2).

**Criterion B/2: That are associated with the lives of persons significant in our past.**

Neither the southern parcel nor the northern parcel of the project site are associated with the lives of persons significant in our past. As described previously, although the land was associated with the Rancho Guajome land grant and the Coutts family, the existing buildings appear to have no direct connection to the Coutts family.

The southern parcel of the project site was owned by Harry C. Arthur Jr., an upper-level executive with West Coast Theatres and later with Fox Theatres. However, neither Arthur nor his sons lived on the property; they lived in Los Angeles. The property was merely the site of their business enterprise, Camelot Ranch, and was not closely associated with the work for which Arthur was known (Appendix F2).

The northern parcel of the project site does not appear to be associated with anyone of importance, given the scarcity of information available. Additionally, research into the Knott family and whether one of their daughters lived on either of the parcels failed to yield any indication that the family was involved with either of the parcels in any way. Therefore, 5401 N. River Road and 297 Wilshire Road and their associated structures are recommended not eligible for listing under NRHP/CRHR Criterion B/2 (Appendix F2).

**Criterion C/3: That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.**

The majority of the buildings on the project site are of a ubiquitous utilitarian form and show evidence of extensive alterations, including but not limited to change of use and/or incompatible additions (Appendix F2). The identifiable architectural styles include Minimal Traditional (Buildings 2 and 7), Spanish Colonial Revival (Building 4), and Craftsman (Building 13) (Appendix F2). Buildings 2 and 7 are unexceptional examples of Minimal Traditional, and unsympathetic alterations to the exteriors, interiors, and fenestration are evident (Appendix F2). Building 4 shows evidence of several alterations to the roof line, particularly on the northern (main) elevation, and remodeling sometime in the 1980s, although the great room on the western

end of the building retains several of its original architectural elements (Appendix F2). There is also a large addition to the eastern portion of the southern elevation. Building 13 shows traces of its Craftsman heritage in the knee braces, roof line, exposed rafters, and the few remaining original windows; however, the building has been expanded and extensively altered and currently appears to serve as a barn and storage area instead of a residence (Appendix F2). As such, the buildings lack distinctive characteristics of a type, period, or method of construction; do not represent the work of a master; do not possess high artistic value; and do not represent contributors of a historic district (Appendix F2). Therefore, 5401 N. River Road and 297 Wilshire Road and their associated structures are recommended not eligible for listing under NRHP/CRHR Criterion C/3 (Appendix F2).

**Criterion D/4: That have yielded, or may be likely to yield, information important in prehistory or history.**

Neither the southern parcel nor the northern parcel of the project site has yielded, or is likely to yield, information important to understanding prehistory or history. Therefore, 5401 N. River Road and 297 Wilshire Road and their associated structures are recommended not eligible for listing under NRHP/CRHR Criterion D/4.

**City of Oceanside Historic Preservation Ordinance**

The criteria identified in the City's Historic Preservation Ordinance are similar to the criteria for listing in the NRHP or CRHR. As such, for the reasons detailed previously, 5401 N. River Road and 297 Wilshire Road and their associated structures are recommended not eligible for local listing under all applicable designation criteria (Appendix F2).

**Conclusion**

The southern parcel and the northern parcel of the project site and their associated structures are recommended not eligible under any criteria for listing at the national, state, or local levels. Similarly, neither parcel retains requisite integrity to be eligible for listing under any registration program. As such, 5401 N. River Road and 297 Wilshire Road and their associated structures are not considered historical resources under CEQA (Appendix F2). Impacts would be less than significant.

***Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?***

Based on SCIC records, review of other available environmental studies, and an intensive pedestrian survey, ground disturbance associated with construction of the proposed project does have the

potential to impact archaeological resources. One prehistoric bedrock milling site (CA-SDI-16083) is located on the project site and has the potential to be impacted based on the project site plan.

CA-SDI-16083 is a heavily disturbed prehistoric bedrock milling site with two identified milling features, each with one milling slick element. No associated artifacts were observed. Visual inspection of subsurface soils and exposed profiles through the excavation of 8 STPs indicate that there is no subsurface cultural deposit within, or near, the recorded site boundary. Archaeologists did not observe any characteristics that would contribute to its eligibility for CRHR listing beyond the data that has been recorded during field efforts. Such characteristics would generally include the presence of developed midden-like soils, a cultural deposit with artifacts, or other anthropogenic features such as burned soil or fire affected rock. Milling slick features are commonly found in this area, and are found in better condition, in situ context, and higher numbers at other nearby sites. However, the presence of these features does contribute to the archaeological record relating to prehistoric food processing and geographic use patterns in the region. In addition, while limited additional archaeological data potential can be gained from these features it should be noted that traditionally geographically affiliated Native American communities who may assign them cultural value should be consulted regarding the proposed project and its findings.

CA-SDI-16083 has no apparent potential to yield important archaeological information due to its disturbed nature, small number of common archaeological features, and lack of associated artifacts or a subsurface cultural component. Based on this information, the site appears to provide little additional data of scientific value and is not eligible for CRHR listing. CA-SDI-16083 is not associated with any significant events locally, regionally, or nationally (Criterion 1); is not associated with, or cannot be connected with, the lives of any important people locally, regionally, or nationally (Criterion 2); does not contain architecture (Criterion 3); and based on Phase I Inventory and Phase II Evaluation efforts, does not have the potential to yield information important to prehistory locally, regionally, or nationally (Criterion 4) (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852). The site is not eligible for listing on the CRHR or the local register, and is not a “unique” archaeological resource under CEQA. While the resource does not appear to be significant pursuant to regulatory conditions, the presence of this site does indicate prehistoric use. As such, the surrounding area should be considered to have potential to contain buried cultural resources.

An additional prehistoric artifact scatter (CA-SDI-12241) has been recorded directly adjacent to the project site. The proposed project would not currently include additional disturbances near CA-SDI-12241; however, there is some potential for unidentified subsurface artifacts to be present in adjacent areas within the project site. As CA-SDI-12241 remains unevaluated for eligibility to be listed on the CRHR it should be assumed to be a significant resource.

There is some potential for unidentified subsurface artifacts to be present within the project site. The area observed to have the highest potential to contain yet-identified subsurface cultural material or deposits is within 300 feet of CA-SDI-16083. However, it is possible for other locations within the project site to contain unanticipated buried deposits. Therefore, impacts related to encountering previously unidentified subsurface artifacts would be potentially significant. Mitigation measure (MM-) CUL-1 would require cultural and Native American resource monitoring during ground-disturbing activities, including a pre-grading meeting, qualifications and abilities for the monitor, procedures should resources be encountered, and reporting protocols. Incorporation of MM-CUL-1 would reduce potentially significant impacts to a level below significance.

One newly recorded isolated find was identified during pedestrian survey (RF2014-ISO-01). As this site is inherently not eligible for CRHR listing and is not a “unique” artifact, impact to this resource would not constitute a significant impact under CEQA. Therefore, impacts associated with RF2014-ISO-01 would be less than significant.

***Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?***

The potential for the proposed project to result in impacts to paleontological resources depends on (1) the presence/absence of known fossil localities; (2) the fossil-yield potential of the geologic units underlying the proposed project; and (3) the location, extent, and depth of construction-related excavation that are proposed. The results of the paleontological sensitivity analysis of the underlying rock formations indicate that none of the project site is in an area of high paleontological sensitivity. However, the portion of the site north of N. River Road and south of the westward extension of Wilshire Road has moderate paleontological sensitivity. This area is underlain by older alluvial flood plain deposits (Pleistocene, younger than 500,000 years).

The site has been in agricultural use for at least several decades. Repeated plowing and ripping of the fields for agricultural purposes over the years has disturbed and reworked native soils, likely to a depth of 3 feet or more (depending the types of crops grown and specific tilling practices). Surface disturbances and shallow grading in this context is unlikely to yield significant paleontological resources. In the remote chance that a fossil is present within surface soils, it would likely be ex-situ (i.e., out of context), fragmented, and undiagnostic (i.e., not identifiable). However, the proposed project would require excavation at depth within and adjacent to areas of low to moderate paleontological sensitivity; therefore, impacts to paleontological resources would be potentially significant.

For surface disturbances (i.e., clearing/grubbing/grinding) and shallow grading (less than 3 feet) within areas of low to moderate paleontological sensitivity, MM-CUL-2 will be incorporated to halt ground disturbance in the immediate area of an inadvertent fossil discovery until a qualified paleontologist can

evaluate the discovery, reducing the potentially significant impact to a level below significance. Even in circumstances where no known fossil occurrences exist, or where the paleontological potential is low, unanticipated discoveries can occur. MM-CUL-2 would require determinations of the uniqueness or significance of paleontological resources inadvertently discovered to be made by qualified, trained paleontologists familiar with the fossils under consideration.

For all excavation activities within older alluvium with high sensitivity, and for any construction activities that involve excavation greater than 3 feet in depth within geologic units with a low paleontological potential, a Paleontological Mitigation and Monitoring Program (PRMMP) will be required as incorporated in MM-CUL-3. The purpose of the PRMMP would be to describe the location, scope, and scale of monitoring that would be required; to incorporate information from the most current construction plans; and to describe procedures for identification, recovery, and curation of fossils if found on site. Therefore, with the incorporation of MM-CUL-3, potentially significant impacts would be reduced to a level below significance.

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

The project site is not currently used as a cemetery and is not otherwise known to contain human remains. However, this does not preclude finding human remains during project excavation and grading activities. Disturbance of any unknown human remains would be a potentially significant impact. However, as standard construction practice, should any human remains be encountered, California 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. Consequently, the proposed project's adherence with the California Health and Safety Code and incorporation of MM-CUL-1 would ensure any potential impacts would be less than significant.

### **4.5.5 Mitigation Measures**

The following mitigation measures would reduce potentially significant impacts to archaeological and paleontological resources to a level below significance.

**MM-CUL-1** Prior to issuance of a grading permit, the applicant shall provide written verification to the City of Oceanside (City) that a qualified archaeologist and a Native American monitor associated with a with a tribe that is traditionally and culturally affiliated with the project location ("TCA Tribe") have been retained to implement the monitoring program. The archaeologist shall be responsible for coordinating with the Native American monitor. This verification shall be presented to the City in a letter from the project archaeologist that confirms the selected Native American monitor is

associated with a TCA Tribe. The City, prior to any pre-construction meeting, shall approve all persons involved in the monitoring program.

Prior to the release of the grading bond, a monitoring report, which describes the methods, results, analysis and conclusion of the archaeological monitoring program, including any evaluation and/or any data recovery efforts on the project site, shall be submitted by the qualified archaeologist to the City. The Native American monitor shall be responsible for providing any notes or comments to the qualified archaeologist in a timely manner to be submitted with the report. The report will include the appropriate California Department of Parks and Recreation Site Forms for any newly discovered resources.

The qualified archaeologist shall maintain ongoing collaborative consultation with the Native American monitor during all ground disturbing activities (i.e., grubbing, clearing, grading, cutting, filling, trenching and/or boring). The requirement for the monitoring program shall be noted on all applicable construction documents, including demolition plans, grading plans, etc. The applicant/owner shall not begin any ground disturbing activities until they have provided the City with a schedule of ground disturbing activities and until the qualified archaeologist and Native American monitor are on-site to conduct monitoring of all ground disturbing activities.

The qualified archaeologist and a Native American monitor shall attend the pre-grading meeting with the grading contractors to explain and coordinate the requirements of the monitoring program.

During the initial grubbing, site grading, excavation or disturbance of the ground surface, the qualified archaeologist and the Native American monitor shall be on site full-time. The frequency of inspections shall depend on the rate of excavation, the materials excavated, and any discoveries of archaeological resources. Archaeological and Native American monitoring will be discontinued when the depth of grading and soil conditions no longer retain the potential to contain cultural deposits. The qualified archaeologist, in consultation with the Native American monitor, shall be responsible for determining the duration and frequency of monitoring.

In the event that previously unidentified archaeological resources are discovered, the qualified archaeologist and the Native American monitor shall have the authority to temporarily divert or temporarily halt ground disturbance operation in the area of discovery to allow for the evaluation of potentially significant cultural

resources. Isolates and clearly non-significant deposits shall be minimally documented in the field and collected so the monitored grading can proceed.

If a potentially significant archaeological resource is discovered, the archaeologist shall notify the City of said discovery. The qualified archaeologist, in consultation with the City, the TCA Tribe and the Native American monitor, shall determine the significance of the discovered resource. A recommendation for the resource's treatment and disposition shall be made by the qualified archaeologist (in consultation with the TCA Tribe and the Native American monitor if the resource is of tribal origin or concern) and be submitted to the City for review and approval.

The avoidance and/or preservation of the significant archaeological resource and/or unique archaeological resource must first be considered and evaluated as required by CEQA. Where any significant and/or unique archaeological resources have been discovered and avoidance and/or preservation measures are deemed to be infeasible by the City, then a research design and data recovery program to mitigate impacts shall be prepared by the qualified archaeologist (using professional archaeological methods), in consultation with the TCA Tribe and the Native American monitor, and shall be subject to approval by the City. The archaeological monitor, in consultation with the Native American monitor, shall determine the amount of material to be recovered for an adequate artifact sample for analysis. Before construction activities are allowed to resume in the affected area, the research design and data recovery program activities must be concluded to the satisfaction of the City.

As specified by California Health and Safety Code Section 7050.5, if human remains are found on the project site during construction or during archaeological work, the person responsible for the excavation, or his or her authorized representative, shall immediately notify the San Diego County (County) Coroner's office. Determination of whether the remains are human shall be conducted on-site and in situ where they were discovered by a forensic anthropologist, unless the forensic anthropologist and the Native American monitor agree to remove the remains to an off-site location for examination. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the Coroner has made the necessary findings as to origin and disposition. A temporary construction exclusion zone shall be established surrounding the area of the discovery so that the area would be protected, and consultation and treatment could occur as prescribed by law. In the event that the remains are determined to be of Native American origin, the Most Likely Descendant, as identified by the Native American Heritage Commission, shall be contacted in order to determine proper treatment and disposition of the

remains in accordance with California Public Resources Code section 5097.98. The Native American remains shall be kept in situ, or in a secure location in close proximity to where they were found, and the analysis of the remains shall only occur on-site in the presence of a Native American monitor.

If the qualified archaeologist elects to collect any archaeological resources, the Native American monitor must be present during any testing or cataloging of those resources. Moreover, if the qualified Archaeologist does not collect the archaeological resources that are unearthed during the ground disturbing activities, the Native American monitor, may at their discretion, collect said resources and provide them to the TCA Tribe for respectful and dignified treatment in accordance with the Tribe's cultural and spiritual traditions. Any archaeological resources collected by the qualified archaeologist shall be repatriated to the TCA Tribe. Should the TCA Tribe or other traditionally and culturally affiliated tribe decline the collection, the collection shall be curated at the San Diego Archaeological Center. All other resources determined by the qualified archaeologist, in consultation with the Native American monitor, to not be significant cultural resources, shall be curated at the San Diego Archaeological Center.

**MM-CUL-2** If potential fossils are discovered by construction crews, all earthwork or other types of ground disturbance within 50 feet of the discovery shall stop immediately until a qualified professional paleontologist can assess the nature and importance of the discovery. Based on the scientific value or uniqueness of the find, the paleontologist may record the find and allow work to continue or recommend salvage and recovery of the fossil. If treatment and salvage is required, recommendations shall be consistent with Society of Vertebrate Paleontology 1995 guidelines and currently accepted scientific practice and shall be subject to review and approval by the City of Oceanside (City). Work in the affected area may resume once the fossil has been assessed and/or salvaged and the City, in consultation with the professional paleontologist, has provided written approval to resume work.

**MM-CUL-3** Prior to the initiation of any site preparation or start of construction, the applicant shall contract with a qualified professional paleontologist or a California Registered Professional Geologist with appropriate paleontological expertise, as defined by the Society of Vertebrate Paleontology's Conformable Impact Mitigation Guidelines Committee (SVP 2010 Guidelines), that shall be responsible for preparing and implementing a Paleontological Resources Monitoring and Mitigation Program. The qualified paleontologist shall be available "on-call" to the City of Oceanside (City) and the applicant throughout the duration of ground-disturbing activities. The Paleontological Resources Monitoring and Mitigation Program shall include

preconstruction coordination; construction monitoring; emergency discovery procedures; sampling and data recovery, if needed; preparation, identification, and analysis of the significance of fossil specimens salvaged, if any; museum storage of any specimens and data recovered; and reporting. Earth-moving construction activities shall be monitored wherever these activities will disturb previously undisturbed sediment. Monitoring will not need to be conducted in areas where sediments have been previously disturbed or in areas where exposed sediments will be buried but not otherwise disturbed. In such cases, spot-checking of the excavation site is sufficient. This measure shall apply for all excavation activities within older alluvium with high sensitivity (Qoa) and for any construction activities that involve excavation greater than 3 feet in depth within geologic units with a low paleontological potential (Qw and Qya).

#### **4.5.6 Level of Significance After Mitigation**

The project site and its associated historic-era structures were determined not to be eligible for listing under NRHP/CRHR or locally. Therefore, they are not considered historic resources, and impacts would be less than significant.

With the incorporation of MM-CUL-1, potentially significant impacts to cultural and archaeological resources would be reduced to a level below significance.

With the incorporation of MM-CUL-2 and MM-CUL-3, potentially significant impacts to paleontological resources would be reduced to a level below significance.

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## 4.6 ENERGY CONSUMPTION

This section describes the existing energy resources of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the North River Farms Planned Development (PD) Plan (proposed project). Specifically, this section discusses the regulatory framework and discloses estimated energy use during the construction and operational phases of the proposed project. This analysis considers the electricity, natural gas, and transportation fuel (petroleum) demand of the proposed project, as well as potential service delivery impacts.

Information in this section is based on the proposed project's Greenhouse Gas Emissions Technical Report (2019), prepared by Dudek, which is included as Appendix H of this Environmental Impact Report (EIR).

### 4.6.1 Existing Conditions

The environmental setting for the proposed project related to electricity, natural gas, and petroleum, including associated service providers, supply sources, and estimated consumption, is discussed below. In summary, in 2016 (the latest calendar year for which data is uniformly available for all three types of energy sources), California's estimated annual energy use included the following:

- Approximately 256,846 gigawatt hours of electricity (EIA 2018a)
- Approximately 22 billion therms of natural gas (approximately 6 billion cubic feet of natural gas per day) (EIA 2018b)
- Approximately 16 billion gallons of gasoline (CEC 2017a)

#### Electricity

Electricity usage in California for different land uses varies substantially by the types of uses in a building, types of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building. Due to the state's energy efficiency building standards and efficiency and conservation programs, California's electricity use per capita has remained stable for more than 30 years, and the national average has steadily increased (CEC 2015a).

San Diego Gas & Electric (SDG&E) provides electric services to 3.6 million customers through 1.4 million electric meters located in a 4,100-square-mile service area that includes the San Diego County (County) and southern Orange County (SDG&E 2016). SDG&E is a subsidiary of Sempra Energy and would provide electricity to the proposed project. According to SDG&E, customers consumed approximately 10,757 million kilowatt-hours (kWh) of electricity in 2016 (SDG&E 2017).

SDG&E receives electric power from a variety of sources. According to CPUC’s 2016 Biennial Renewable Portfolio Standard (RPS) Program Update, 43.2% of SDG&E’s power came from eligible renewable energy sources in 2016, including biomass/waste, geothermal, small hydroelectric, solar, and wind sources (CPUC 2017a). This is an improvement from the 36.4% that SDG&E maintained in 2014 (CPUC 2016).

Based on recent energy supply and demand projections in California, statewide annual peak electricity demand is projected to grow an average of 890 megawatts per year for the next decade, or 1.4% annually, and consumption per capita is expected to remain relatively constant at 7,200–7,800 kWh per person (CEC 2015a).

In the County, SDG&E reported an annual electrical consumption of approximately 10.8 billion kWh in 2016, with 5.8 billion kWh for non-residential use and 4.9 billion kWh for residential use (SDG&E 2017).

### **Natural Gas**

CPUC regulates natural gas utility service for approximately 10.8 million customers who receive natural gas from Pacific Gas & Electric (PG&E), Southern California Gas (SoCalGas), SDG&E, Southwest Gas, and several smaller natural gas utilities. CPUC also regulates independent storage operators Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage (CPUC 2017b). SDG&E provides natural gas service to the Counties of San Diego and Orange and would provide natural gas to the proposed project. SDG&E is a wholesale customer of SoCalGas and currently receives all of its natural gas from the SoCalGas system (CPUC 2017b).

The majority of California’s natural gas customers are residential and small commercial customers (core customers). These customers accounted for approximately 32% of the natural gas delivered by California utilities in 2012. Large consumers, such as electric generators and industrial customers (noncore customers), accounted for approximately 68% of the natural gas delivered by California utilities in 2012 (CPUC 2017b).

CPUC regulates California natural gas rates and natural gas services, including in-state transportation over transmission and distribution pipeline systems, storage, procurement, metering, and billing. Most of the natural gas used in California comes from out-of-state natural gas basins. California gas utilities may soon also begin receiving biogas into their pipeline systems (CPUC 2017b).

In 2012, California customers received 35% of their natural gas supply from basins located in the Southwest, 16% from Canada, 40% from the Rocky Mountains, and 9% from basins located within California (CPUC 2017b). Natural gas from out-of-state production basins is delivered into California through the interstate natural gas pipeline system. The major interstate pipelines

that deliver out-of-state natural gas to California are the Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, Ruby Pipeline, Southern Trails, and Mojave Pipeline. The North Baja–Baja Norte Pipeline takes gas off the El Paso Pipeline at the California/Arizona border and delivers it through California into Mexico. The Federal Energy Regulatory Commission regulates the transportation of natural gas on interstate pipelines, and CPUC often participates in Federal Energy Regulatory Commission regulatory proceedings to represent the interests of California natural gas consumers (CPUC 2017b).

Most of the natural gas transported through interstate pipelines, as well as some California-produced natural gas, is delivered through the PG&E and SoCalGas intrastate natural gas transmission pipeline systems (commonly referred to as California’s “backbone” natural gas pipeline system). Natural gas on the backbone pipeline system is then delivered into local transmission and distribution pipeline systems or to natural gas storage fields. Some large noncore customers take natural gas directly off the high-pressure backbone pipeline system, and some core customers and other noncore customers take natural gas off the utilities’ distribution pipeline systems. CPUC has regulatory jurisdiction over 150,000 miles of utility-owned natural gas pipelines, which transported 82% of the natural gas delivered to California’s gas consumers in 2012 (CPUC 2017b).

PG&E and SoCalGas own and operate several natural gas storage fields that are located in Northern and Southern California. These storage fields and four independently owned storage utilities—Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage—help meet peak-season natural gas demand and allow California natural gas customers to secure natural gas supplies more efficiently (CPUC 2017b).

California’s regulated utilities do not own any natural gas production facilities. All natural gas sold by these utilities must be purchased from suppliers and/or marketers. The price of natural gas sold by suppliers and marketers was deregulated by the Federal Energy Regulatory Commission in the mid-1980s and is determined by market forces. However, CPUC decides whether California’s utilities have taken reasonable steps to minimize the cost of natural gas purchased on behalf of its core customers (CPUC 2017b).

As indicated in the preceding discussion, natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available through existing delivery systems, thereby increasing the availability and reliability of resources.

### **Petroleum**

There are more than 35 million registered vehicles in California, and those vehicles consume an estimated 18 billion gallons of fuel each year (CEC 2017b; DMV 2017). Gasoline and other vehicle fuels are commercially provided commodities and would be available to the proposed project through commercial outlets.

Petroleum currently accounts for approximately 92% of California’s transportation energy consumption (CEC 2017b). However, technological advances, market trends, consumer behavior, and government policies could result in significant changes in fuel consumption by type and in total. At the federal and state levels, various policies, rules, and regulations have been enacted to improve vehicle fuel efficiency, promote the development and use of alternative fuels, reduce transportation-source air pollutants and greenhouse gas (GHG) emissions, and reduce vehicle miles traveled (VMT). Market forces have driven the price of petroleum products steadily upward over time, and technological advances have made use of other energy resources or alternative transportation modes increasingly feasible.

Largely as a result of and in response to these multiple factors, gasoline consumption within the state has declined in recent years, and availability of other alternative fuels/energy sources has increased. The quantity, availability, and reliability of transportation energy resources have increased in recent years, and this trend may likely continue and accelerate (CEC 2017b). Increasingly available and diversified transportation energy resources act to promote continuing reliable and affordable means to support vehicular transportation within the state.

## **4.6.2 Regulatory Setting**

Federal, state, and local agencies regulate energy use and consumption through various means and programs. On the federal level, the U.S. Department of Transportation, the U.S. Department of Energy, and the U.S. Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, CPUC and CEC are two agencies with authority over different aspects of energy. Relevant federal, state, and local energy-related regulations are summarized below.

### **Federal**

#### ***Federal Energy Policy and Conservation Act***

In 1975, Congress enacted the Federal Energy Policy and Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. In 2012, new fuel economy standards for passenger cars and light trucks were approved for model years 2017 through 2021 (77 FR 62624–63200). Fuel economy is determined based on each manufacturer’s average fuel economy for the fleet of vehicles available for sale in the United States.

### ***Intermodal Surface Transportation Efficiency Act of 1991***

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of intermodal transportation systems to maximize mobility and address national and local interests in air quality and energy. ISTEA contained factors that metropolitan planning organizations were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, metropolitan planning organizations adopted policies defining the social, economic, energy, and environmental values guiding transportation decisions.

### ***Transportation Equity Act for the 21st Century***

The Transportation Equity Act for the 21st Century was signed into law in 1998 and builds on the initiatives established in the ISTEA legislation (discussed above). The act authorizes highway, highway safety, transit, and other efficient surface transportation programs. The act continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of transportation decisions. The act also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of intelligent transportation systems to help improve operations and management of transportation systems and vehicle safety.

### ***Energy Independence and Security Act of 2007***

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) was signed into law. In addition to setting increased Corporate Average Fuel Economy standards for motor vehicles, the EISA includes the following other provisions related to energy efficiency:

- Renewable Fuel Standard (RFS) (Section 202)
- Appliance and Lighting Efficiency Standards (Sections 301–325)
- Building Energy Efficiency (Sections 411–441)

This federal legislation requires ever-increasing levels of renewable fuels (the RFS) to replace petroleum (EPA 2013, 2015). The U.S. Environmental Protection Agency is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel. The RFS program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders.

The RFS program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. As required under the act, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012.

Under the EISA, the RFS program was expanded in several key ways that lay the foundation for achieving significant reductions in GHG emissions from the use of renewable fuels, reducing imported petroleum, and encouraging the development and expansion of the renewable fuels sector in the United States. The updated program is referred to as “RFS2” and includes the following:

- EISA expanded the RFS program to include diesel, in addition to gasoline.
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel, and set separate volume requirements for each one.
- EISA required the U.S. Environmental Protection Agency to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

Additional provisions of the EISA address energy savings in government and public institutions, research for alternative energy, additional research in carbon capture, international energy programs, and the creation of “green” jobs.

## **State**

The discussion below focuses primarily on those policies, regulations, and laws that directly pertain to energy-related resources. Refer to Section 4.8, Greenhouse Gas Emissions, of this EIR, which addresses various policies, regulations, and laws targeted to the reduction of GHG emissions that are expected to achieve co-benefits in the form of reduced demand for energy-related resources and enhanced efficiencies in the consumption of energy-related resources.

### ***Warren-Alquist Act***

The California Legislature passed the Warren-Alquist Act in 1974. The Warren-Alquist Act created the CEC. The legislation also incorporated the following three key provisions designed to address the demand side of the energy equation:

- It directed the CEC to formulate and adopt the nation’s first energy conservation standards for both buildings constructed and appliances sold in California.
- The act removed the responsibility of electricity demand forecasting from the utilities, which had a financial interest in high demand projections, and transferred it to a more impartial CEC.
- The CEC was directed to embark on an ambitious research and development program, with a particular focus on fostering what were characterized as non-conventional energy sources.

***State of California Energy Action Plan***

The CEC and CPUC approved the first State of California Energy Action Plan in 2003. The plan established shared goals and specific actions to ensure that adequate, reliable, and reasonably priced electrical power and natural gas supplies are provided, and identified policies, strategies, and actions that are cost-effective and environmentally sound for California's consumers and taxpayers. In 2005, a second Energy Action Plan was adopted by the CEC and CPUC to reflect various policy changes and actions of the prior 2 years.

At the beginning of 2008, the CEC and CPUC determined that it was not necessary or productive to prepare a new energy action plan. This determination was based in part on a finding that the state's energy policies have been significantly influenced by the passage of Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006 (discussed below). Rather than produce a new energy action plan, the CEC and CPUC prepared an "update" that examines the state's ongoing actions in the context of global climate change.

***Senate Bill 1078 (2002)***

This bill established the California RPS Program and required that a retail seller of electricity purchase a specified minimum percentage of electricity generated by eligible renewable energy resources as defined in any given year, culminating in a 20% standard by December 31, 2017. These retail sellers include electrical corporations, community choice aggregators, and electric service providers. The bill relatedly required the CEC to certify eligible renewable energy resources, design and implement an accounting system to verify compliance with the RPS by retail sellers, and allocate and award supplemental energy payments to cover above-market costs of renewable energy.

***Senate Bills 107 (2006), X1-2 (2011), and 350 (2015)***

Senate Bill (SB) 107 (2006) accelerated the RPS established by SB 1078 by requiring that 20% of electricity retail sales be served by renewable energy resources by 2010 (not 2017). Additionally, SB X1-2 (2011) requires all California utilities to generate 33% of their electricity from eligible renewable energy resources by 2020. Specifically, SB X1-2 sets a three-stage compliance period: by December 31, 2013, 20% shall come from renewables; by December 31, 2016, 25% shall come from renewables; and by December 31, 2020, 33% shall come from renewables.

SB 350 (2015) requires retail seller and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030, with interim goals of 40% by 2024 and 45% by 2027.

Consequently, utility energy generation from non-renewable resources is expected to be reduced based on implementation of the 33% RPS in 2020 and the 50% RPS in 2030. Therefore, the proposed project's reliance on non-renewable energy sources would also be reduced.

***Assembly Bill 1007 (2005)***

AB 1007 (2005) required the CEC to prepare a statewide plan to increase the use of alternative fuels in California (State Alternative Fuels Plan). The CEC prepared the plan in partnership with the California Air Resources Board (CARB) and in consultation with the other state, federal, and local agencies. The plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

***Assembly Bill 32 (2006) and Senate Bill 32 (2016)***

In 2006, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020. In 2016, the Legislature enacted SB 32, which extended the horizon year of the state's codified GHG reduction planning targets from 2020 to 2030, requiring California to reduce its GHG emissions to 40% below 1990 levels by 2030. In accordance with AB 32 and SB 32, CARB prepares scoping plans to guide the development of statewide policies and regulations for the reduction of GHG emissions. Many of the policy and regulatory concepts identified in the scoping plans focus on increasing energy efficiencies and the use of renewable resources and reducing the consumption of petroleum-based fuels (such as gasoline and diesel). As such, the state's GHG emissions reduction planning framework creates co-benefits for energy-related resources. Additional information on AB 32 and SB 32 is provided in Section 4.8 of this EIR.

***California Building Standards***

Part 6 of Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. Part 6 establishes energy efficiency standards for residential and non-residential buildings constructed in California to reduce energy demand and consumption. Part 6 is updated periodically to incorporate and consider new energy efficiency technologies and methodologies. The 2016 Title 24 building energy efficiency standards, which became effective on January 1, 2017, further reduce energy used in the state. In general, single-family homes built to the 2016 standards are anticipated to use approximately 28% less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards, and non-residential buildings built to the 2016 standards will use an estimated 5% less energy than those built to the 2013 standards (CEC 2015a).

Title 24 also includes Part 11, the California’s Green Building Standards (CALGreen). The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings, as well as schools and hospitals. The 2016 CALGreen standards became effective on January 1, 2017. The mandatory standards require the following:

- 20% mandatory reduction in indoor water use
- 50% diversion of construction and demolition waste from landfills
- Mandatory inspections of energy systems to ensure optimal working efficiency

### ***Integrated Energy Policy Report***

CEC is responsible for preparing integrated energy policy reports, which identify emerging trends related to energy supply, demand, conservation, public health and safety, and maintenance of a healthy economy. The CEC’s 2015 Integrated Energy Policy Report discusses the state’s policy goal to require that new residential construction be designed to achieve zero net energy (ZNE) standards by 2020 and that new non-residential construction be designed to achieve ZNE standards by 2030, which is relevant to this EIR. Refer to Section 4.8 of this EIR for additional information on the state’s ZNE objectives and how the state’s achievement of its objectives would serve to beneficially reduce the proposed project’s GHG emissions profile and energy consumption.

### ***State Vehicle Standards***

In a response to the transportation sector accounting for more than half of California’s carbon dioxide (CO<sub>2</sub>) emissions, AB 1493 was enacted in 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles whose primary use is noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. The 2009–2012 standards resulted in a reduction in approximately 22% GHG emissions compared to emissions from the 2002 fleet, and the 2013–2016 standards resulted in a reduction of approximately 30%.

In 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards called Advanced Clean Cars. By 2025, when the rules would be fully implemented, new automobiles would emit 34% fewer global warming gases and 75% fewer smog-forming emissions (CARB 2011).

Although the focus of the state’s vehicle standards is on the reduction of air pollutants and GHG emissions, one co-benefit of implementation of these standards is a reduced demand for petroleum-based fuels.

### ***Sustainable Communities Strategy***

The Sustainable Communities and Climate Protection Act of 2008, or SB 375, coordinates land use planning, regional transportation plans, and funding priorities to help California meet its GHG emissions reduction mandates. As codified in California Government Code, Section 65080, SB 375 requires metropolitan planning organizations (San Diego Association of Governments) to include a sustainable communities strategy in its regional transportation plan. The main focus of the sustainable communities strategy is to plan for growth in a fashion that will ultimately reduce GHG emissions, but the strategy is also a part of a bigger effort to address other development issues within the general vicinity, including transit and VMT, which influence the consumption of petroleum-based fuels.

### **Local**

#### ***SDG&E Long-Term Procurement Plan***

In 2009, CPUC approved SDG&E's Long-Term Procurement Plan (LTPP), which identifies how SDG&E will meet the future energy needs of customers in SDG&E's service area (SDG&E 2009). The LTPP identifies several energy demand reduction targets (i.e., conservation) and goals for increasing renewable energy supplies, new, local power generation, and increased transmission capacity.

The LTPP sets a standard for acquiring 20% of SDG&E's energy mix from renewables by 2010 and 33% by 2020. The LTPP also calls for greater use of in-region energy supplies, including renewable energy installations. The LTPP states that, by 2020, SDG&E intends to achieve and maintain the capacity to generate 75% of summer peak demand energy with in-County generation. The LTPP also identifies 44% of its renewables to be generated and distributed in-region by 2020.

#### ***City of Oceanside's General Plan***

The City of Oceanside's (City's) General Plan (City's General Plan) takes steps to address energy by including policies for improving energy efficiency, reducing waste, recycling, and managing water use. The City's General Plan also seeks to reduce energy consumption through minimizing VMT; creating increased opportunities for transit, pedestrians, and bicycles; and encouraging and approving green building and land development conservation initiatives. The following policies identified in the City's General Plan are applicable to the proposed project (City of Oceanside 2002):

## Circulation Element

- **Policy 2.5:** The City will strive to incorporate complete streets throughout the Oceanside transportation network which are designed and constructed to serve all users of streets, roads and highways, regardless of their age or ability, or whether they are driving, walking, bicycling, or using transit.
- **Policy 2.6:** The City will strive to stay up-to-date with legislation and emerging technologies as it relates to complete streets and multimodal analysis.
- **Policy 4.1:** The City shall encourage the reduction of vehicle miles traveled, reduction of the total number of daily and peak hour vehicle trips, and provide better utilization of the circulation system through development and implementation of TDM strategies. These may include, but not limited to, implementation of peak hour trip reduction, encourage staggered work hours, telework programs, increased development of employment centers where transit usage is highly viable, encouragement of ridesharing options in the public and private sector, provision for park-and-ride facilities adjacent to the regional transportation system, and provision for transit subsidies.
- **Policy 4.9:** The City shall look for opportunities to incorporate TDM [transportation demand management] programs into their Energy Roadmap that contributes to state and regional goals for saving energy and reducing greenhouse gas emissions.

The Circulation Element also includes the Bicycle Master Plan and Pedestrian Master Plan included as Appendices A and B to the element, respectively.

## Land Use Element

- **Bicycle Facilities**
  - **Policy A:** Development shall provide Class II Bikeways (Bike Lanes) on all secondary, major, and prime arterials.
  - **Policy D:** The use of land shall integrate the Bicycle Circulation System with auto, pedestrian, and transit systems:
    1. Development shall provide short-term bicycle parking and long-term bicycle storage facilities such as bicycle racks, pedestal posts, and rental bicycle lockers.
    2. Development shall provide safe and convenient bicycle access to high activity land uses, such as schools, parks, shopping, employment, and entertainment centers.
- **Pedestrian**
  - **Policy A:** The construction of five (5) foot wide sidewalks adjacent to the curb shall be required in all new developments and street improvements.

- **Transit System**
  - **Policy A:** The City shall coordinate and encourage the existing bus system to serve newly developed areas.
- **Energy**
  - **Policy A:** The City shall encourage the design, installation, and use of passive and active solar collection systems.
  - **Policy B:** The City shall encourage the use of energy efficient design, structures, materials, and equipment in all land developments or uses.
  - **Policy C:** The City shall encourage the use of long-term lower cost energy sources.

#### **Environmental Resource Management Element**

- The City will continue to cooperate with the SDAPCD Board. This will include participation in the development of the Regional Air Quality Strategy (RAQS) through cooperation with the San Diego County Air Quality Planning Team.

The proposed project's consistency with applicable General Plan policies is evaluated in Section 4.11, Land Use and Planning, of this EIR.

#### **4.6.3 Thresholds of Significance**

The CEQA Guidelines provide no specific thresholds for impacts associated with energy consumption. However, Appendix F of the CEQA Guidelines (14 CCR 15000 et seq.) provides guidance for evaluating whether a development project may result in significant impacts with regard to energy. Based on Appendix F of the CEQA Guidelines, a project could have a significant impact on energy conservation if the proposed project would:

1. Result in wasteful, inefficient, or unnecessary consumption of energy.
2. Conflict with existing energy standards and regulations.
3. Place a significant demand on local and regional energy supplies or require a substantial amount of additional capacity.

## 4.6.4 Impacts Analysis

*Would the project result in wasteful, inefficient, or unnecessary consumption of energy?*

### Electricity

#### *Construction Use*

Temporary electric power for as-necessary lighting and electronic equipment (such as computers inside temporary construction trailers and heating, ventilation, and air conditioning) would be provided by SDG&E. The amount of electricity used during construction would be minimal because typical demand stems from the use of several construction trailers that are used by managerial staff during the hours of construction activities in addition to electrically powered hand tools. The majority of the energy used during construction would be from petroleum. The electricity used for construction activities would be temporary and minimal; therefore, impacts would be less than significant.

#### *Operational Use*

At full build-out, the proposed project's operational phase would require electricity for operating the various buildings and residences. For non-residential and residential land uses, the California Emissions Estimator Model (CalEEMod), version 2016.3.2, default values for electricity consumption for each land use were applied (CAPCOA 2017). The electricity use for non-residential buildings is calculated in CalEEMod using energy intensity value (electricity use per square foot per year) assumptions, which were based on the California Commercial End-Use Survey database (CEC 2006). While the electricity use for residential buildings is calculated in CalEEMod using energy intensity value (electricity use per square foot per year) assumptions, which were based on the Residential Appliance Saturation Survey (RASS) (CEC 2010).

The current Title 24 building energy efficiency standards (24 CCR Part 6) are the 2016 Title 24 building energy efficiency standards, which became effective January 1, 2017. In general, non-residential and residential buildings built to the 2016 standards will use an estimated 5% and 28% less energy than those built to the 2013 standards (CEC 2015b). CalEEMod default values assume compliance with the 2016 Title 24 standards.

As indicated in the Park Concept Plan, the proposed project would include an approximately 127,908<sup>1</sup> gallon swimming pool located in the River Village Park. Electricity demand for swimming pools was estimated using baseline demand in the SDG&E service area from SCE's *Metering and Measuring of Multi-Family Pool Pumps, Final Report – Phase 1 & 2* (SCE

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<sup>1</sup> Volume for swimming pool is based on a length of 75 feet and a width of 38 feet with a shallow end depth of 3 feet and a deep end depth of 9 feet or an average depth of 6 feet.

2016). The swimming pool is assumed to use electricity for pumps. Additionally, water supplied to the site would require electricity to be pumped to the site, and wastewater would require electricity in treatment.

Operational electricity use for the proposed project is presented in Table 4.6-1.

**Table 4.6-1  
Estimated Electrical Demand – Operation**

Land Use Type <sup>a</sup>	Estimated Electrical Demand (kWh per year)
Apartment Low Rise	407,183
Condo/Townhouse	1,134,052
Single-Family Housing	1,442,636
Hotel	510,987
Regional Shopping Center	122,707
Quality Restaurant	118,032
Community Swimming Pool	21,770
<b>Total</b>	<b>3,757,367</b>

**Source:** Appendix H.

kWh = kilowatt-hour; PDF = Project Design Feature; PV = photovoltaic.

<sup>a</sup> Land use type was taken from the CalEEMod modeling and represents the closest land use to what is in the proposed project.

As shown in Table 4.6-1, the proposed project is estimated to have a total electrical demand of approximately 3,757,367 kWh per year, which is based on CalEEMod and the PV Loads Report (VCA Green 2018). Electricity consumption from residential and non-residential buildings are expected be offset through the installation of on-site solar photovoltaic (PV) panels. Therefore, because of energy efficiency design features, the proposed project would reduce reliance on non-renewable energy sources. Impacts related to operational electricity use would be less than significant.

## Natural Gas

### *Construction Use*

Natural gas is not anticipated to be required during construction of the proposed project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed under the subsection Petroleum. Any minor amounts of natural gas that may be consumed as a result of proposed project construction would be temporary and negligible and would not have an adverse effect; therefore, impacts would be less than significant.

### *Operational Use*

Natural gas would be directly consumed throughout operation of the proposed project, primarily through building heating and fireplace options for homes. As described above and consistent with electricity use, the proposed project’s natural gas use was estimated using CalEEMod.

Table 4.6-2 shows the estimated natural gas use (in therms per year) for the proposed project during operation.

**Table 4.6-2  
Estimated Natural Gas Demand – Operation**

Land Use Type <sup>a</sup>	Estimated Natural Gas Demand (therms per year)
Apartment Low Rise	14,593
Condo/Townhouse	35,957
Single-Family Housing	72,265
Hotel	17,440
Regional Shopping Center	2,685
Quality Restaurant	4,028
Community Swimming Pool	71,650
<b>Total</b>	<b>218,618</b>

**Source:** Appendix H.

<sup>a</sup> Land use type was taken from the CalEEMod modeling and represents the closest land use to what is in the proposed project. The parking lot land use was omitted from this table because it does not consume natural gas.

As presented in Table 4.6-2, the proposed project is estimated to use approximately 218,618 therms of natural gas per year. By comparison, in 2015, SDG&E supplied 464.5 million therms of natural gas to customers (CEC 2016a). The proposed project’s energy efficiency design features, which include solar PV panels, would not result in a wasteful use of energy. Therefore, natural gas consumption impacts would be less than significant.

### **Petroleum**

#### *Construction Use*

Petroleum would be consumed throughout construction of the proposed project. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction, and VMT associated with the transportation of construction materials and construction worker commutes would also result in petroleum consumption. Heavy-duty construction equipment associated with construction activities, as well as haul trucks involved in moving dirt around the project site, would rely on diesel fuel. Construction workers would travel to and from the project site throughout the duration of construction. It is assumed that construction workers would travel to and from the project site in gasoline-powered vehicles.

Heavy-duty construction equipment of various types would be used during each phase of construction. CalEEMod was used to estimate construction equipment usage, and results are included in Appendix H. Based on that analysis, over all phases of construction, diesel-fueled construction equipment would operate for an estimated 101,322 hours, as summarized in Table 4.6-3.

**Table 4.6-3  
Hours of Operation for Construction Equipment**

Phase	Hours of Equipment Use
Demolition	1,008
Site Preparation	1,344
Grading	9,920
Paving	6,480
Building Construction	79,420
Architectural Coating	3,150
<b>Total</b>	<b>101,322</b>

Source: Appendix H.

Fuel consumption from construction equipment was estimated by converting the total CO<sub>2</sub> emissions from each construction phase to gallons using conversion factors for CO<sub>2</sub> to gallons of gasoline or diesel. Construction is estimated to occur over a 5-year period (2019–2024) based on the construction phasing schedule. The conversion factor for gasoline is 9.13 kilograms per metric ton CO<sub>2</sub> per gallon, and the conversion factor for diesel is 10.35 kilograms per metric ton CO<sub>2</sub> per gallon (The Climate Registry 2016). The estimated diesel fuel use from construction equipment is shown in Table 4.6-4.

**Table 4.6-4  
Construction Equipment Diesel Demand**

Phase	Pieces of Equipment	Equipment CO <sub>2</sub> (MT)	kg CO <sub>2</sub> /Gallon	Gallons
Demolition	6	36.61	10.35	3,537.25
Site Preparation	7	41.33	10.35	3,992.92
Grading	8	432.18	10.35	41,756.35
Paving	6	136.28	10.35	13,167.48
Building Construction	10	1,375.08	10.35	132,858.02
Architectural Coating	1	67.12	10.35	6,485.33
<b>Total</b>				<b>201,797.34</b>

Sources: Appendix H (pieces of equipment and equipment CO<sub>2</sub>); The Climate Registry 2016 (kg/CO<sub>2</sub>/gallon).  
CO<sub>2</sub> = carbon dioxide; kg = kilogram; MT = metric ton

Fuel consumption from worker and vendor trips is estimated by converting the total CO<sub>2</sub> emissions from each construction phase to gallons using the conversion factors for CO<sub>2</sub> to gallons of gasoline or diesel. Worker vehicles are assumed to be gasoline fueled, and vendor/hauling vehicles are assumed to be diesel fueled. Calculations for total worker, vendor, and hauler fuel consumption are provided in Tables 4.6-5, 4.6-6, and 4.6-7.

**Table 4.6-5  
Construction Worker Vehicle Gasoline Demand**

Phase	Trips	Vehicle CO <sub>2</sub> (MT)	kg CO <sub>2</sub> /Gallon	Gallons
Demolition	315	1.18	9.13	129.22
Site Preparation	432	1.62	9.13	177.23
Grading	3,100	11.50	9.13	1,259.30
Paving	2,025	7.34	9.13	804.48
Building Construction	100,320	337.53	9.13	36,969.34
Architectural Coating	67,200	33.99	9.13	3,722.38
<b>Total</b>				<b>43,061.95</b>

**Sources:** Appendix H (construction worker CO<sub>2</sub>); The Climate Registry 2016 (kg/CO<sub>2</sub>/gallon).  
CO<sub>2</sub> = carbon dioxide; kg = kilogram; MT = metric ton

**Table 4.6-6  
Construction Vendor Truck Diesel Demand**

Phase	Trips	Vehicle CO <sub>2</sub> (MT)	kg/CO <sub>2</sub> /Gallon	Gallons
Demolition	0	0.00	10.35	0.00
Site Preparation	0	0.00	10.35	0.00
Grading	0	0.00	10.35	0.00
Paving	0	0.00	10.35	0.00
Building Construction	191,235	2,464.32	10.35	238,098.57
Architectural Coating	0	0.00	10.35	0.00
<b>Total</b>				<b>238,098.57</b>

**Sources:** Appendix H (construction worker CO<sub>2</sub>); The Climate Registry 2016 (kg/CO<sub>2</sub>/gallon).  
CO<sub>2</sub> = carbon dioxide; kg = kilogram; MT = metric ton

**Table 4.6-7  
Construction Haul Truck Diesel Demand**

Phase	Trips	Vehicle CO <sub>2</sub> (MT)	kg CO <sub>2</sub> /Gallon	Gallons
Demolition	145	5.66	10.35	547.33
Site Preparation	0	0.00	10.35	0.00
Grading	0	0.00	10.35	0.00
Paving	0	0.00	10.35	0.00
Building Construction	0	0.00	10.35	0.00
Architectural Coating	0	0.00	10.35	0.00
<b>Total</b>				<b>547.33</b>

**Sources:** Appendix H (construction worker CO<sub>2</sub>); The Climate Registry 2016 (kg/CO<sub>2</sub>/gallon).  
CO<sub>2</sub> = carbon dioxide; kg = kilogram; MT = metric ton

As shown in Tables 4.6-5 through 4.6-7, the proposed project is estimated to consume 281,708 gallons of petroleum during the construction phase. By comparison, approximately 71.7 billion

gallons of petroleum would be consumed in California over the course of the proposed project’s construction period based on the California daily petroleum consumption estimate of approximately 52.9 million gallons per day (CEC 2016b). The proposed project would be required to comply with CARB’s Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes. Therefore, because petroleum use during construction, including construction of the proposed project, would be temporary and minimal and would not be wasteful or inefficient, impacts would be less than significant.

**Operational Use**

The majority of fuel consumption resulting from the proposed project’s operational phase would be attributable to the use of resident, visitor, and employee motor vehicles traveling to and from the project site, as well as fuels used for alternative modes of transportation that may be used by residents, visitors, and employees.

Petroleum fuel consumption associated with motor vehicles traveling to and from the project site is a function of VMT as a result of project operation. As shown in Appendix H, the annual VMT attributable to the proposed project is expected to be approximately 25,394,434 VMT per year. Similar to construction worker and vendor trips, fuel consumption was estimated by converting the total CO<sub>2</sub> emissions from each land use type to gallons using the conversion factors for CO<sub>2</sub> to gallons of gasoline or diesel. Based on the annual fleet mix provided in CalEEMod, 92.9% of the fleet range from light-duty to medium-duty vehicles and motorcycles were assumed to run on gasoline. The remaining 7.1% of vehicles represent medium-heavy duty to heavy-duty vehicles and buses/recreational vehicles, which were assumed to run on diesel.

Calculations for annual mobile-source fuel consumption are provided in Table 4.6-8.

**Table 4.6-8  
Mobile Source Fuel Consumption – Operation**

Fuel	Vehicle MT CO <sub>2</sub>	kg CO <sub>2</sub> /Gallon	Gallons
Gasoline	8,308.88	9.13	910,063.64
Diesel	635.84	10.35	61,434.28
<b>Total</b>			<b>971,497.92</b>

**Sources:** Appendix H (mobile source CO<sub>2</sub>); The Climate Registry 2016 (kg/CO<sub>2</sub>/gallon).  
CO<sub>2</sub> = carbon dioxide; kg = kilogram; MT = metric ton

As shown in Table 4.6-8, mobile sources from the proposed project would result in approximately 910,064 gallons of gasoline per year and 61,434 gallons of diesel consumed per year beginning in 2025. By comparison, California as a whole consumed approximately 16 billion gallons of petroleum in 2016 (CEC 2017a).

Over the lifetime of the proposed project, the fuel efficiency of the vehicles being used by residents, visitors, and employees is expected to increase. As such, the amount of petroleum consumed as a result of vehicular trips to and from the project site during operation would decrease over time. There are numerous regulations in place that require and encourage increased fuel efficiency. For example, CARB has adopted an approach to passenger vehicles by combining the control of smog-causing pollutants and GHG emissions into a single, coordinated package of standards. The approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emissions vehicles in California (CARB 2013). Additionally, the proposed project would include multi-modal design features, traffic-calming measures, and the integrated walking and bicycling trails, which would help support the goals of SB 375 to reduce VMT. As such, operation of the proposed project is expected to use decreasing amounts of petroleum over time due to advances in fuel economy. Further, MM-GHG-1 identifies project features such as the inclusion of electric-vehicle charging outlets within residential units which would result in the potential for reduced petroleum use during operation because residents would have the option of charging their electric vehicles.

In summary, although the proposed project would increase petroleum use during operation, the use would be a small fraction of the statewide use and, due to efficiency increases, diminish over time. Additionally, the inclusion of on-site walking/bicycling trails and other resident-serving amenities would help reduce petroleum-based fuels consumption. Given these considerations, petroleum consumption associated with the proposed project would not be considered inefficient or wasteful and impacts would be less than significant.

***Would the project conflict with existing energy standards and regulations?***

The proposed project would follow applicable energy standards and regulations during the construction phases. Furthermore, MM-GHG-1 includes various on-site features and measures to reduce the proposed project's energy consumption which includes incorporating energy reducing features into residential and nonresidential building design such as including rooftop solar PV systems. The proposed project would be built and operated in accordance with all existing, applicable regulations at the time of construction. For the reasons stated, the proposed project would not conflict with existing energy standards or regulations, and impacts would be less than significant.

***Would the project place a significant demand on local and regional energy supplies or require a substantial amount of additional capacity?***

**Electricity**

As described previously, the proposed project would involve minimal use of electricity during construction. Further, the proposed project would implement PV systems in order to offset electrical consumption. A large proportion of the electrical demand would be generated by water and wastewater service, which would occur at minor scales compared to water demand for the region as a

whole. The proposed project would implement design features to minimize its demand for electricity through the use of enhanced building energy efficiency standards. In addition, MM-GHG-1 identifies that the proposed project would provide an offset of 100% of residential and non-residential buildings electrical energy usage through the installation of PV solar panels.

Implementation of the proposed project would not result in substantial amounts of local or regional energy supplies compared to existing conditions. The resultant increase in energy demand would not exceed the available capacity of SDG&E servicing infrastructure to the site or beyond. Therefore, impacts would be less than significant.

### **Natural Gas**

As described previously, the proposed project would use a minimal amount of natural gas during construction. The proposed project is estimated to use 252,973 therms of natural gas per year during its operational phase. In 2015, SDG&E supplied 464.5 million therms of natural gas to customers (CEC 2016a). The proposed project would design buildings to meet enhanced building energy efficiency standards. In summary, the proposed project's demand would not have a significant impact on the local utility; therefore, impacts would be less than significant.

### **Petroleum**

During construction, the proposed project is anticipated to use 43,062 gallons of petroleum over the 5-year construction period, or 8,612 gallons per year. By comparison, Countywide total petroleum use by vehicles is expected to be 2.0 million gallons per year by 2020 (Caltrans 2008).

During operation, the proposed project is anticipated to use 971,497 gallons of petroleum per year. By comparison, in 2025, the County is expected to use 1.9 million gallons of petroleum per year for transportation (Caltrans 2008).

Although the proposed project would see an increase in petroleum use during construction and operation, the use is a small fraction of the regional use and, due to efficiency increases, would diminish over time. Given these considerations, the petroleum consumption associated with the proposed project would not be considered a substantial demand on local or regional supply; therefore, impacts would be less than significant.

## **4.6.5 Mitigation Measures**

Impacts would be less than significant, and no mitigation measures are required.

#### **4.6.6 Level of Significance After Mitigation**

The proposed project would comply with regulatory requirements and would implement project design features such that energy use associated with construction and operation of the proposed project would be reduced. As such, the proposed project would not result in the wasteful or inefficient use of electricity, and impacts would be less than significant.

Additionally, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing energy consumption, including the City's General Plan policies. As a result, impacts would be less than significant.

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## 4.7 GEOLOGY AND SOILS

This section describes the existing geological setting of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures as necessary related to implementation of the North River Farms Planned Development (PD) Plan (proposed project). The following analysis is based on the North River Farms Preliminary Geotechnical Investigation that was prepared for the proposed project by Geocon Inc. in November 2017 and is incorporated by reference herein. The Preliminary Geotechnical Investigation is included in Appendix G of this Environmental Impact Report (EIR).

### 4.7.1 Existing Conditions

#### Project Site

The project site is located in the City of Oceanside (City). The project site is bounded on the southeast and southwest by the San Luis Rey River, on the northeast and east by Wilshire Road, and on the north and northwest by agricultural land and partially developed land. The project site is bisected into northern and southern sections by N. River Road.

The project site is currently used by West Coast Tomato Growers as agricultural land to cultivate tomatoes. Several existing vacant, dilapidated single-family structures are located in the northern and central portions of the project site. Additionally, a few single-family homes are currently used at the site as office space and farm operations. Storage structures, temporary greenhouses, a transfer facility, and a water filtration facility with an associated lined pond and water tank are also located on site. A network of unimproved roads and an irrigation system also extend throughout the project site.

#### Regional Geologic Setting

The project site is located in the Peninsular Ranges geomorphic province, one of the largest geomorphic units in western North America, extending approximately 975 miles bounded by the Pacific Ocean, the Gulf of California, and the Colorado Desert Province. The Peninsular Ranges are a series of northwest–southeast-oriented fault blocks with the Elsinore Fault, the San Jacinto Fault, and the San Andreas Fault as the major fault zones. However, no major faults are found on the immediate project site and immediate vicinity.

#### Site Geology

##### *Topography*

The project site is approximately 176.6 acres. The site is characterized as gently sloping, north to south, with a high point at the northern end becoming nearly flat along the southern portion of the property that abuts the San Luis Rey River. Site elevations range from about 240 feet above

mean sea level at the north to about 90 feet above mean sea level adjacent to the river. Within the western third of the site, a drainage transects the property north to south, then trending west, eventually emptying into the San Luis Rey river channel.

### ***Soil and Geologic Conditions***

Four surficial soil types and two geologic formations are located on the project site as determined by the Preliminary Geotechnical Investigation, Appendix G to this EIR. The surficial deposits consist of undocumented fill, colluvium, alluvium, and older alluvium. The formational units include the Eocene-age Santiago Formation and Cretaceous-age Tonalite (Granitic Rock) (refer to Figure 4.7-1). Each of the surficial soil types and geologic units encountered is described below in order of increasing age (Appendix G).

#### Soil Types and Geologic Formations

##### *Undocumented Fill Material (Unmapped)*

Undocumented fill soils are located in various locations across the site and generally range in thickness from 2 and 10 feet and primarily consist of loose to medium dense, silty sands with varying amounts of cobbles and boulders, debris, and trash. These materials will require removal and compaction on site in areas planned to receive structural fill and/or settlement-sensitive improvements. The trash and debris should be separated from the soil and exported.

##### *Alluvium (Qal)*

Alluvial soils are located on the project site with the thickest deposits south of N. River Road. The alluvium primarily consists of damp to saturated, loose to medium dense, silty/clayey, fine-grained sand and sand. These deposits are considered compressible if subjected to additional fill or structure loading. Portions of the alluvium on the project site are considered susceptible to liquefaction. The alluvium is approximately 67 feet thick at the southern property boundary; however, the thickness beneath the footprint of the proposed project structures is generally 1 to 30 feet. The alluvium would be removed and compacted on site to mitigate the compression-related settlement and potential for liquefaction. If groundwater conditions were to preclude complete removal, surcharge loading and settlement monitoring procedures would be necessary.

##### *Colluvium (Qcol)*

Colluvial soils are located under the undocumented fill and are exposed at the surface. This material primarily consists of damp, medium dense, silty/clay, fine- to medium-grained sand to stiff, silty/sandy clay. The colluvial deposits are considered compressible and would be removed and compacted on site. The colluvial soils generally range between 4 and 9 feet thick at the project site.

### Older Alluvium (Qoa)

Older alluvium is located under the undocumented fill and exposed at the ground surface. The older alluvium primarily consists of damp, dense, silty, fine- to coarse-grained sand. The older alluvial deposits are suitable for the support of additional fill or structure loading.

### Santiago Formation (Tsa)

The Eocene-age Santiago Formation is deposited on an irregular erosional surface formed on the Tonalite. This formation consists of relatively flat-lying claystone, siltstone, and sandstone units. With the exception of the sandier portions, materials derived from this unit typically possess a medium to high expansion potential with a moderate to low shear strength. This formation can also possess a high to moderate potential to transmit seepage along impervious layers. However, the Santiago Formation is suitable in its present condition.

### Granitic Rock (Kgt)

Cretaceous-age Tonalite (granitic rock) of the Southern California Batholith is located beneath the surficial soils or at the ground surface. The rock materials exhibit a variable weathering pattern ranging from completely weathered, decomposed granite to outcrops of fresh, extremely strong, hard rock. Granitic units generally exhibit adequate bearing and slope stability characteristics and cut slopes excavated at an inclination of 2:1 (horizontal:vertical) should be stable to the proposed heights if free of adversely oriented joints or fractures.

The soils derived from excavations within the decomposed granitic rock are anticipated to consist of low-expansive, silty, medium- to coarse-grained sands and would provide suitable foundation support in either a natural or properly compacted condition. Excavations within the granitic rock will generate boulders and oversize materials (rocks greater than 12 inches in length) that will require special handling and placement.

## ***Geologic Hazards***

### Faulting and Seismicity

The San Andreas system and its associated faults account for the majority of Southern California's geologic structure, placing the project site in a seismically active region. However, no known active fault exists on the project site, and the site is not found within the Alquist-Priolo Earthquake Fault Zone or a Special Studies Zone. These zones are designated by the Alquist-Priolo Earthquake Faulting Zone Act if faults are found within these zones that may pose a potential fault rupture risk to any structures, existing or future (DOC 2018).

The Newport-Inglewood and Rose Canyon Faults, located approximately 11 and 12 miles west of the site, respectively, are the closest known active faults. The CGS considers a fault

seismically active when evidence suggests seismic activity within roughly the last 11,000 years. The California Geological Survey has included portions of the Rose Canyon Fault Zone within an Alquist-Priolo Earthquake Fault Zone.

According to the computer program EZ-FRISK (Version 7.65), 10 known active faults are located within a search radius of 50 miles from the property. The nearest known active faults are the Newport-Inglewood and Rose Canyon Faults, located approximately 11 and 12 miles west of the site, respectively, and are the dominant sources of potential ground motion. Earthquakes that might occur on the Newport-Inglewood or Rose Canyon Fault Zones or other faults within the Southern California and northern Baja California area are potential generators of significant ground motion at the site.

EZ-FRISK was used to perform a probabilistic seismic hazard analysis in the Preliminary Geotechnical Investigation. EZ-FRISK operates under the assumption that the occurrence rate of earthquakes on each mappable Quaternary fault is proportional to the fault's slip rate. EZ-FRISK accounts for fault rupture length as a function of earthquake magnitude, and site acceleration estimates are made using the earthquake magnitude and distance from the site to the rupture zone. EZ-FRISK also accounts for uncertainty in earthquake magnitude, rupture length for a given magnitude, location of the rupture zone, maximum possible magnitude of a given earthquake, and acceleration at the site from a given earthquake along each fault. By calculating the expected accelerations from considered earthquake sources, the program calculates the total average annual expected number of occurrences of site acceleration greater than a specified value. The acceleration-attenuation relationships suggested by Boore and Atkinson (2008) National Geospatial-Intelligence Agency–U.S. Geological Survey, Campbell and Bozorgnia (2008) National Geospatial-Intelligence Agency–U.S. Geological Survey, and Chiou and Youngs (2008) were used in the Preliminary Geotechnical Investigation. Table 4.7-1 presents the site-specific probabilistic seismic hazard parameters, including acceleration-attenuation relationships and the probability of exceedance (Appendix G).

**Table 4.7-1**  
**Probabilistic Seismic Hazard Parameters**

Probability of Exceedance	Peak Ground Acceleration		
	<i>Boore-Atkinson (2008)</i>	<i>Campbell-Bozorgnia (2008)</i>	<i>Chiou-Youngs (2008)</i>
2% in a 50-year period	0.51	0.40	0.47
5% in a 50-year period	0.40	0.31	0.36
10% in a 50-year period	0.32	0.25	0.27

Source: Appendix G.

Although listing peak accelerations is useful for comparison of potential effects of fault activity in a region, other considerations are important in seismic design, including the frequency and duration of

motion and the soil conditions underlying the site. Seismic design of the structures should be evaluated in accordance with the California Building Code (CBC) guidelines currently adopted by the City.

The site could be subjected to moderate to severe ground shaking in the event of a major earthquake on any of the referenced faults or other faults in Southern California. With respect to seismic shaking, the site is considered comparable to the surrounding developed area. As such, no faults were identified by the Preliminary Geotechnical Investigation to exist in the geological study area.

### Liquefaction

Liquefaction typically occurs when a site is located in a zone with seismic activity, on-site soils are cohesionless or silt/clay with low plasticity, groundwater is encountered within 50 feet of the surface, and soil densities are less than approximately 70% of the maximum dry densities. If the four previous criteria are met, a seismic event could result in a rapid pore-water pressure increase from the earthquake-generated ground accelerations.

The site is not located within a state-designated liquefaction hazard zone. However, based on an initial screening of the boring logs and cone penetration tests, the subsurface conditions along the southwest property margin had relatively shallow groundwater depths within deposits of relatively loose sand. Specifically, as discussed below, groundwater was encountered during the field explorations at depths between 8 and 23 feet below the existing ground surface, with depths of approximately 19 to 23 feet below ground surface within the proposed development footprint.

Adverse impacts associated with liquefaction include ground rupture and/or sand boils, lateral spread, and settlement of the liquefiable layers. The current standard of practice, as outlined in the Recommended Procedures for Implementation of DMG Special Publication 117A, Guidelines for Analyzing and Mitigating Liquefaction in California, requires liquefaction analysis to a depth of at least 50 feet below the lowest portion of proposed structures. A liquefaction analysis was completed in accordance with DMG Special Publication 117A guidelines, which determined that the proposed project has generally been shifted north and west of the primary liquefaction hazard areas associated with the San Luis Rey River. Remedial grading would remove the majority, if not all, of the soils subject to a liquefaction potential within the development footprint and proposed fill placement (including remedial grading) would provide an overburden sufficient to eliminate the potential for surface manifestation.

Sand boils occur where liquefiable soil is extruded upward through the soil deposit to the ground surface. Providing an increase in overburden pressure and a compacted fill mat can mitigate surface manifestation of these features. Based on the modified curves and the thickness of the non-liquefiable soil layers (layers above the assumed groundwater table), the risk for surface manifestation does exist in the in situ condition. However, proposed remedial grading and additional fill placement will eliminate the potential for surface manifestation.

Lateral spreading occurs when liquefiable soil is in the immediate vicinity of a free face such as a slope. Factors controlling lateral displacement include earthquake magnitude, distance from the earthquake epicenter, thickness of liquefiable soil layer, grain size characteristics, and fines content of the soil. Based on review of the project plans, the potential for lateral spreading in the potentially liquefiable soil below the groundwater table and below the compacted fill is considered negligible (Appendix G).

### Settlement

Seismically induced settlement could occur within the liquefied soil layer or layers after seismic shaking stops due to rearrangement of the sand particles. Seismically induced settlement due to liquefaction was estimated using procedures suggested by Special Publication 117A (CGS 2008). The analyses indicated total settlements ranging between 0 and approximately 3.5 inches. Proposed remedial grading will reduce these settlement estimates to acceptable levels. In addition, the proposed development has been shifted away from the location in the river valley, which indicated 3.5 inches of settlement. Where proposed development is now located, the liquefaction analysis revealed settlement of approximately 0.75 inches, which is deemed acceptable. Differential settlement is expected to be approximately one-half of the estimated total settlement over a distance of approximately 50 feet.

### Tsunamis and Seiches

A tsunami is a high ocean wave generated by a submarine earthquake or volcanic eruption. A seiche is an oscillating wave in an enclosed or restricted body of water generated by ground motion during an earthquake. A seiche could cause a lake, reservoir, or lagoon to overflow.

The project site would have a negligible potential to be affected by tsunamis and seiches due to the site elevation and distance from an open body of water (approximately 7 miles from the Pacific Ocean). According to the Tsunami Inundation Map for Emergency Planning accessed from the State of California Department of Conservation, the project site is outside the tsunami inundation area (DOC 2009).

### Landslides

Potential for landslides are also considered negligible. During the site reconnaissance for the Preliminary Geotechnical Investigation, no evidence of landslides or instability was found.

### ***Groundwater***

Groundwater was encountered during the field explorations at depths ranging between 8 and 23 feet below the existing ground surface. Within the proposed development footprint, groundwater was generally observed at approximately 19 to 23 feet below the ground surface. Groundwater was not encountered in the test pits. During the geologic reconnaissance, no water was observed within the drainage that transects the western third of the property.

Groundwater may impact grading in that it may limit remedial excavations within alluvial areas which will affect the liquefaction and settlement estimates. Dewatering or other means of groundwater mitigation should be considered to facilitate remedial grading and prevent the need to perform surcharging and settlement monitoring. Other than the drainage that transects the western third of the site, groundwater is not expected to be a factor in development of the site north of N. River Road. Groundwater is expected to be a factor during remedial grading of alluvium south the N. River Road.

## **4.7.2 Regulatory Setting**

### **Federal**

#### ***International Building Code***

The International Building Code (IBC) is a model building code developed by the International Code Council that provides the basis for the CBC. The purpose of the IBC is to provide minimum standards for building construction to ensure public safety, health, and welfare. Prior to the creation of the IBC, several different building codes were used; however, by the year 2000, the IBC had replaced these previous codes. The IBC is updated every 3 years.

#### ***Occupational Safety and Health Administration Regulations***

Excavation and trenching are among the most hazardous construction activities. The Occupational Safety and Health Administration (OSHA) Excavation and Trenching standard, Title 29 of the Code of Federal Regulations, Part 1926.650 et seq., covers requirements for excavation and trenching operations. OSHA requires that excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area.

### **State**

#### ***California Geologic Survey***

The California Geologic Survey provides guidance with regard to seismic hazards. The California Geologic Survey's Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California (2008), provides guidance for evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigation.

#### ***State of California Division of Occupational Safety and Health, California Department of Industrial Relations***

The State of California Division of Occupational Safety and Health (CalOSHA) Excavations Standard (Subchapter 4, Article 6) details requirements for excavation operations. CalOSHA requires

that all excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area. Article 6 also includes a Tailgate/Toolbox Guide for Trenching Safety before and during excavation activities.

### ***California Building Code***

The CBC has been codified in the California Code of Regulations as Title 24, Part 2. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating building standards. Under state law, building standards must be centralized in Title 24 to be enforceable. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use, occupancy, location, and maintenance of all building and structures within its jurisdiction. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California. The CBC describes requirements for engineering geologic reports, supplemental ground-response reports, and geotechnical reports (California Building Standards Commission 2013).

### ***Alquist-Priolo Earthquake Fault Zoning Act***

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (California Public Resources Code, Sections 2621–2630) regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture. The act helps define areas where fault rupture is most likely to occur. The act groups faults into categories of active, potentially active, and inactive. Historic and Holocene age faults are considered active. Late Quaternary and Quaternary age faults are considered potentially active and pre-Quaternary age faults are considered inactive. These classifications are qualified by the conditions that a fault must be shown to be sufficiently active and well defined by detailed site-specific geologic explorations in order to determine whether building setbacks should be established. Cities and counties affected by the zones must regulate certain development projects within the zones. They must withhold development permits for sites within the zones until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting. The project site is not identified on an Alquist-Priolo Earthquake Fault Zoning Map.

### ***Seismic Hazards Mapping Act***

The Seismic Hazards Mapping Act (California Public Resources Code, Sections 2690–2699.6) addresses earthquake hazards from non-surface fault rupture, including liquefaction, landslides, strong ground shaking, or other earthquake and geologic hazards. The Seismic Hazards Mapping Act also specifies that the lead agency for a project may withhold

development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils. The project site is not identified on a seismic hazards map.

## **Local**

### ***City of Oceanside General Plan***

State of California law requires that each city prepare and adopt an approved General Plan that provides comprehensive, long-term guidance for the City's future. General Plans are also required to contain specific elements regarding different areas of planning; relevant elements include land use, environmental resource management, and public safety. While each element outlines policies, plans, and goals that guide the City to maintaining and improving each area of development, the Public Safety Element specifically addresses seismic hazards and geologic conditions. The Public Safety Element includes the following seismic and geologic hazard objectives:

1. Consider seismic and geologic hazards when making land use decisions particularly in regard to critical structures.
2. Minimize the risk of occupancy of all structures from seismic and geologic occurrences.
3. Provide to the public all available information about existing seismic and geologic conditions.

The Public Safety Element includes the Public Safety Plan that includes definitions, maps, and mitigation information for seismic and geologic hazards that exist within the City.

The Environmental Resource Management Element includes the following policy for soil, erosion, and drainage:

1. Consider appropriate engineering and land use planning techniques to mitigate rapid weathering of the rocks, soil erosion, and the siltation of the lagoons.

The Environmental Resource Management Element also provides a general map of soil types within the City (Figure ERM-3, Soil & Land Forms).

The Land Use Element contains the following objectives and policies regarding geology and soils:

**3.14 Grading and Excavations, Objective:** To provide mitigation recommendations for grading and excavations in the City of Oceanside.

**Policy 3.14A:** Investigation and evaluation of currently affected areas will indicate the measures to be included, such as the following measures:

1. Keep grading to a minimum, leave vegetation and soils undisturbed wherever possible.

2. Plant bare slopes and cleared areas with appropriate vegetation immediately after grading.
3. Chemically treat soils to increase stability and resistance to erosion.
4. Install retaining structures where appropriate.
5. Construct drainage systems to direct and control rate of surface runoff.
6. Construct silt traps and settling basins in drainage systems.
7. Construct weirs and check dams on streams.

### ***City of Oceanside Building Code***

Chapter 6, Building Construction Regulations, of the City’s Municipal Code outlines the regulations and requirements for construction of buildings within the City’s jurisdiction, including seismic and geologic safety design standards. The City adopts the most recent CBC as the local building code and makes amendments as needed.

### **4.7.3 Thresholds of Significance**

The significance criteria used to evaluate the project impacts to geology and soils are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to geology and soils would occur if the proposed project would (14 CCR 15000 et seq.):

1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - a. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area based on other substantial evidence of as known fault. Refer to Division of Mines and Geology Special Publication 42.
  - b. Strong seismic ground shaking.
  - c. Seismic-related ground failure, including liquefaction.
  - d. Landslides.
2. Result in substantial soil erosion or the loss of topsoil.
3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
5. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

#### 4.7.4 Impacts Analysis

*Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: (a) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area based on other substantial evidence of a known fault. (Refer to Division of Mines and Geology Special Publication 42); (b) strong seismic ground shaking; (c) seismic-related ground failure, including liquefaction; or (d) landslides?*

No known active or potentially active faults exist on or are adjacent to the project site. Additionally, the proposed project is not located within an Alquist-Priolo Earthquake Fault Zone. Ground surface rupture or cracking of the ground surface due to an active fault is, therefore, considered unlikely on the project site.

Due to regional proximity to major known active fault zones such as the Newport-Inglewood Fault, Rose Canyon Fault, Lake Elsinore Fault, and San Jacinto Fault, the project site lies in a seismically active region. The project site is likely to be subjected to strong ground motion from seismic activity similar to that of the rest of the San Diego County and Southern California (see Table 4.7-1), due to the seismic activity of the region as a whole. However, with incorporation of the geotechnical recommendations provided in the Preliminary Geotechnical Investigation and adherence to the CBC requiring specific performance standards to minimize adverse effects of earthquakes and other geologic hazards, impacts relating to faulting and seismicity would be less than significant.

Liquefaction typically occurs when a site is subjected to strong seismic shaking, on-site soils are cohesionless, and groundwater is encountered within 50 feet of the surface. As stated previously, the site is not located within a state-designated liquefaction hazard zone. However, based on an initial screening of the boring logs and cone penetration tests, the subsurface conditions along the southwest property margin had relatively shallow groundwater depths within deposits of relatively loose sand. As such, the Preliminary Geotechnical Investigation found that the proposed project has generally been shifted north and west of the primary liquefaction hazard areas associated with the San Luis Rey River. In addition, remedial grading would remove the majority, if not all, of the soils subject to a liquefaction potential within the development footprint, and proposed fill placement (including remedial grading) would provide an overburden sufficient to eliminate the potential for surface manifestation. Therefore, the Preliminary Geotechnical Investigation provides recommendations as provided in Mitigation Measure (MM)-GEO-1, associated with seismic design, grading, foundation, retaining walls, site

drainage, and moisture protection. Additionally, as specified by the recommendations in the Preliminary Geotechnical Investigation, foundations shall conform to the most recent CBC standards. With incorporation of MM-GEO-1, impacts associated with liquefaction would be less than significant.

During the site reconnaissance for the Preliminary Geotechnical Investigation, no evidence of landslides or instability was found. However, because construction plans are not yet proposed, the Preliminary Geotechnical Investigation provides recommendations as provided in MM-GEO-1. As provided by the Preliminary Geotechnical Investigation, such recommendations include but are not limited to construction of design consideration and special foundations for improvements planned near the top of a slope 3:1 (horizontal: vertical) or steeper. With incorporation of MM-GEO-1, impacts associated with landslides or instability would be less than significant.

***Would the project result in substantial soil erosion or the loss of topsoil?***

The project site currently serves as agricultural land to cultivate tomatoes with exposed soils resulting in erosion potential. The potential for erosion would increase during construction as a result of vehicles, heavy equipment, and general earth work accelerating the erosion process. Wind erosion could occur on bare soils or where vehicles and equipment cause dust. Currently, the proposed project does not include finalized construction plans, therefore specific details relating to grading activities are not yet known. Once finalized construction plans are known, erosion analysis would be done for the project site. A conceptual grading plan indicates that construction of the proposed project would require 1,040,200 cubic yards of cut and fill. However, potential erosion impacts would be avoided by adherence to the erosion control standards established by the City's Grading Ordinance and through implementation of best management practices required by the Stormwater Pollution Prevention Plan (SWPPP) (refer to Section 4.10, Hydrology and Water Quality, for more information). Therefore, construction impacts related to erosion would be less than significant.

The proposed project would involve the development of the project site with residential, commercial, agricultural, open space, and hotel land uses with associated paved roadways and landscaping. Such features covering vacant land would inhibit erosion and proposed landscaping would stabilize soils thereby reducing erosion potential on the project site. The Preliminary Geotechnical Investigation provides recommendations, as provided in MM-GEO-1. As provided by the Preliminary Geotechnical Investigation, such recommendations include but are not limited to controlling surface drainage and adherence to the City of Oceanside and County of San Diego (County) grading ordinances, which include requirements for erosion control during construction). Therefore, with incorporation of MM-GEO-1, during the operational phase of the proposed project, impacts to erosion would be less than significant.

***Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?***

As discussed above, with incorporation of MM-GEO-1, potential substantial adverse impacts related to landslides and liquefaction would be less than significant. Please refer to the above analysis.

According to the Preliminary Geotechnical Investigation, non-seismic induced settlement or subsidence could potentially occur to the undocumented fill, colluvium, and alluvium underlying the project site. As stated previously, the proposed project does not include finalized Development Plans for individual planning areas. However, as provided in the Preliminary Geotechnical Investigation, incorporated by MM-GEO-1, recommendations include but are not limited to groundwater dewatering, surficial soils and alluvial materials removal and compaction, and surcharge embankment and settlement monitoring (if groundwater cannot be completely removed). Therefore, incorporation of recommendations found in the Preliminary Geotechnical Investigation, provided as MM-GEO-1, would result in less-than-significant impacts related to soil instability.

***Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?***

The Preliminary Geotechnical Investigation prepared preliminary soil testing and determined that the project site would include expansive soils. Therefore, the Preliminary Geotechnical Investigation includes design requirements for foundations and retaining walls depending on the expansive soil index. Upon implementation of MM-GEO-1, impacts would be less than significant.

***Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?***

The proposed project does not include septic tanks or alternative wastewater disposal systems; therefore, no impact would occur.

#### **4.7.5 Mitigation Measures**

**MM-GEO-1** Prior to the issuance of the grading permit, the City Engineer (or its designee) shall review and approve project design and construction documents to verify that the applicable recommendations of the Preliminary Geotechnical Investigation, North River Farms, Oceanside, California, prepared by Geocon Inc. in November 2017 have been incorporated. Recommendations shall be held to performance standards within the applicable ordinances (including grading, construction, and landscaping regulations) of the City of Oceanside (City) and County of San Diego

(County), as well as the standards provided in the most recent California Building Code (CBC), which are intended to reduce risk related to geologic hazards.

Recommendations that will be incorporated include but are not limited to the following:

1. Additional field exploration and laboratory testing are recommended to evaluate specific geotechnical issues, such as slope stability and rock rippability. In addition, a stormwater infiltration feasibility evaluation, in accordance with the current City's Storm Water Standards Manual, should be performed. This evaluation should include in situ permeability testing at each of the proposed water quality basin locations.
2. The surficial soils and alluvial materials should be completely removed and compacted. The lowest portions of alluvial soils may require dewatering or other means to manage groundwater perched on the bedrock and allow for complete removals. In the event that groundwater prevents complete removals, a surcharge embankment and settlement monitoring procedure will be necessary where the saturated deposits are left in-place.
3. All grading should be performed in accordance with the Recommended Grading Specifications contained in the Preliminary Geotechnical Investigation.
4. Prior to commencing grading, a preconstruction conference should be held at the site with the owner or developer, grading contractor, civil engineer, and geotechnical engineer in attendance. Special soil handling and the fine grading plans can be discussed at that time.
5. The surficial soils should be removed and properly compacted prior to placing additional fill or structural loads. As previously discussed, groundwater may impact project remedial grading. Where the water table is not encountered, remedial grading should extend to formational materials. Prior to placing fill, the exposed removal bottom should be compacted to at least 90% of the applicable maximum dry density at or slightly above optimum moisture content. Aeration, and/or mixing with drier soils may be needed. The actual extent of unsuitable soil removals will be determined in the field during grading by the geotechnical engineer and/or engineering geologist.
6. To reduce the potential for differential settlement and facilitate ease of excavating shallow footings and utility trenches, it is recommended that the cut portion of cut-fill transitions, if present after remedial grading, or shallow fills (less than 3 feet) over granitic rock be undercut a minimum of 3 feet below proposed finish grade and replaced with properly compacted "very

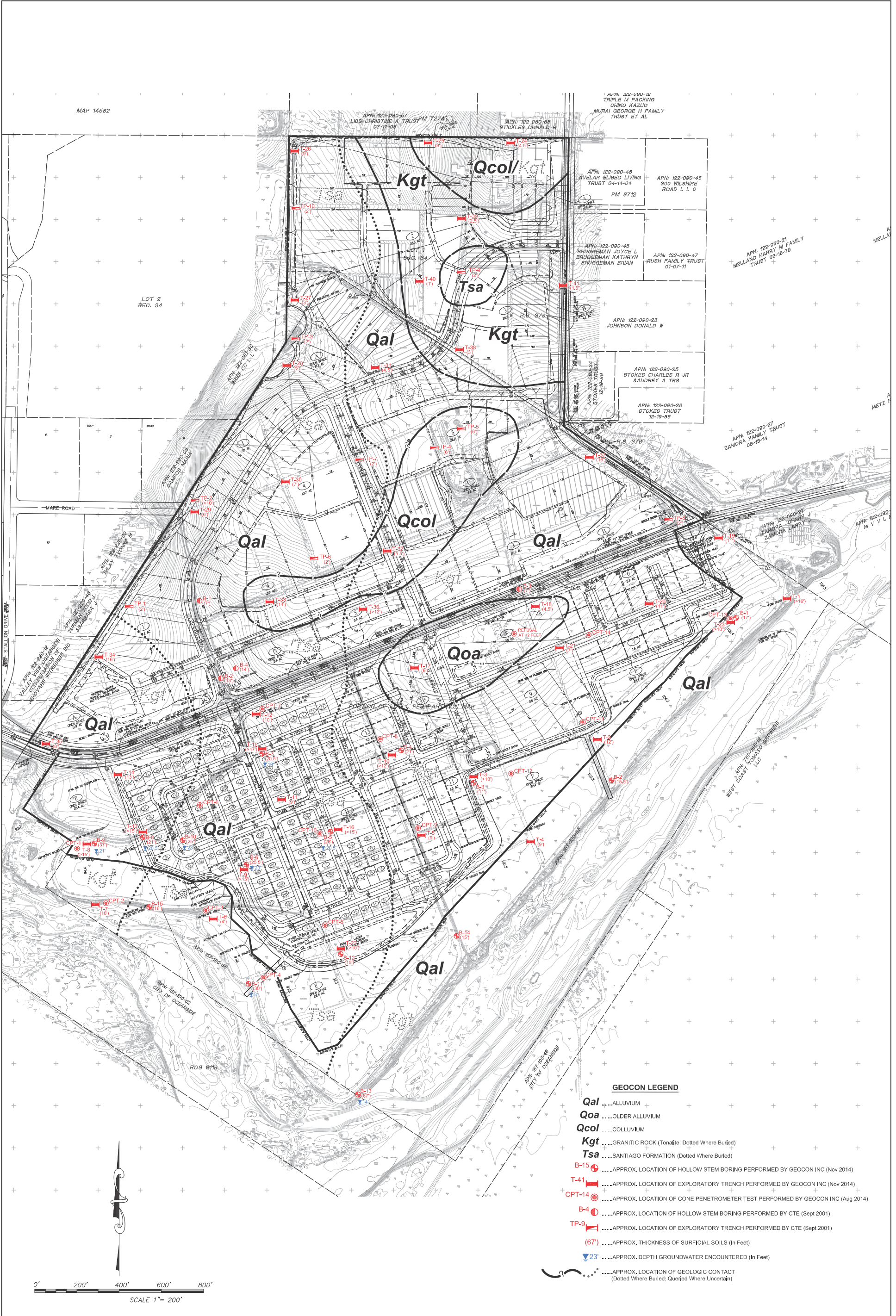
low” to “low” expansive soil fill. Undercutting of granitic rock on cut lots and roadway areas should also be considered to facilitate construction of foundations and underground utilities.

7. The site should then be brought to final subgrade elevations with structural fill compacted in layers. In general, the on-site soils are suitable for reuse as fill if free from vegetation, debris, and other deleterious material. Layers of fill should be no thicker than will allow for adequate bonding and compaction. All fill and scarified ground surfaces should be compacted to at least 90% of maximum dry density at or above optimum moisture content, as determined in accordance with ASTM Test Procedure D 1557. Fill materials below optimum moisture content may be considered unacceptable by the project geotechnical engineer.
8. It is the responsibility of the contractor to ensure that excavations and trenches are properly shored and maintained in accordance with applicable OSHA rules and regulations in order to maintain safety and maintain the stability of adjacent existing improvements.
9. The geologist shall provide the final foundation category for the proposed buildings after finish pad grades have been achieved and laboratory testing of the subgrade soil has been completed. The Preliminary Geotechnical Investigation provides foundation recommendations for one- to three-story residential structures, which are separated into three categories based on either the maximum and differential fill thickness or expansion index.
10. Retaining walls shall be designed to ensure stability against overturning sliding, excessive foundation pressure, and water uplift. The Preliminary Geotechnical Investigation provides additional recommendations for retaining walls and lateral loads, which shall be followed.
11. Adequate site drainage is critical to reduce the potential for differential soil movement, erosion and subsurface seepage. Under no circumstances should water be allowed to pond adjacent to footings. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with 2016 CBC 1804.4 or other applicable standards. In addition, surface drainage should be directed away from the top of slopes into swales or other controlled drainage devices. Roof and pavement drainage should be directed into conduits that carry runoff away from the proposed structure. The Preliminary Geotechnical Investigation provides additional recommendations for site drainage and moisture protection, which shall be followed.

12. The geologist should review the grading and foundation plans for the proposed project prior to final design submittal to determine if additional analysis or recommendations are required.

#### **4.7.6 Level of Significance After Mitigation**

With the incorporation of MM-GEO-1, impacts related to geology and soils would be less than significant.



SOURCE: GEOCON, INC. 2018

**DUDEK**

**FIGURE 4.7-1  
Geologic Map**

North River Farms Planned Development Plan EIR

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## 4.8 GREENHOUSE GAS EMISSIONS

This section describes the existing greenhouse gas emissions (GHG) setting of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures as necessary related to implementation of the North River Farms Planned Development (PD) Plan (proposed project). The following analysis is based on the Greenhouse Gas Emissions Technical Report that was prepared for the proposed project by Dudek in January 2019 and the North River Farms Estimate PV Loads Report prepared for the proposed project by VCA Green in April 2018. These reports are incorporated by reference herein. The Greenhouse Gas Emissions Technical Report and the PV Loads Report are included as Appendices H and D2 of this Environmental Impact Report (EIR), respectively.

### 4.8.1 Existing Conditions

#### Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the Sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017a).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the Sun is absorbed by Earth; Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward Earth. The greenhouse effect is a natural process that contributes to regulating Earth's temperature and creates a pleasant, livable environment on Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing Earth's surface temperature to rise.

The scientific record of Earth's climate shows that the climate system varies naturally over a wide range of time scales and that in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-twentieth century and is the most significant driver of observed climate change (IPCC 2013; EPA 2017a). Human influence on

the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system.

### **GHGs and other Climate-Forcing Substances**

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. GHGs include but are not limited to carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), ozone (O<sub>3</sub>), water vapor, hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>).<sup>1</sup> Some GHGs, such as CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO<sub>2</sub> and CH<sub>4</sub> are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO<sub>2</sub>, include fluorinated gases, such as HFCs, HCFCs, PFCs, and SF<sub>6</sub>, which are associated with certain industrial products and processes. A summary of the GHGs associated with project construction and operation and their sources is included in the following text.<sup>2</sup>

**Carbon Dioxide.** CO<sub>2</sub> is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO<sub>2</sub> include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic outgassing; and decomposition of dead organic matter. Human activities that generate CO<sub>2</sub> are from the combustion of fuels such as coal, oil, natural gas, and wood, and changes in land use.

**Methane.** CH<sub>4</sub> is produced through both natural and human activities. CH<sub>4</sub> is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

**Nitrous Oxide.** N<sub>2</sub>O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N<sub>2</sub>O.

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<sup>1</sup> California Health and Safety Code, Section 38505, identifies seven GHGs that the California Air Resources Board (CARB) is responsible for monitoring and regulating to reduce emissions: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, SF<sub>6</sub>, HFCs, PFCs, and NF<sub>3</sub>.

<sup>2</sup> The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (1995), IPCC Fourth Assessment Report (2007), CARB's Glossary of Terms Used in GHG Inventories (2015), and the U.S. Environmental Protection Agency's (EPA's) Glossary of Climate Change Terms (2016).

Sources of N<sub>2</sub>O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N<sub>2</sub>O as a propellant (such as in rockets, race cars, and aerosol sprays).

**Fluorinated Gases.** Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric O<sub>3</sub>-depleting substances (e.g., CFCs, HCFCs, and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons.** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to O<sub>3</sub>-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons.** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the O<sub>3</sub>-depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride.** SF<sub>6</sub> is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF<sub>6</sub> is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen Trifluoride.** NF<sub>3</sub> is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.
- **Chlorofluorocarbons.** CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere), and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O<sub>3</sub>.
- **Hydrochlorofluorocarbons.** HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

**Black Carbon.** Black carbon is a component of fine particulate matter (PM<sub>2.5</sub>), which has been identified as a leading environmental risk factor for premature death. It is produced from the

incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential (GWP). Diesel particulate matter emissions are a major source of black carbon and are toxic air contaminants that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from the California Air Resources Board's (CARB's) regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014).

**Water Vapor.** The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

**Ozone.** Tropospheric O<sub>3</sub>, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O<sub>3</sub>, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O<sub>2</sub>), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O<sub>3</sub>, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

**Aerosols.** Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

### **Global Warming Potential**

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of Earth (e.g., affect cloud formation or albedo) (EPA 2016). The Intergovernmental Panel on Climate Change (IPCC) developed the GWP concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO<sub>2</sub>; therefore, GWP-weighted emissions are measured in metric tons of carbon dioxide equivalent (MT CO<sub>2</sub>e).

The current version of the California Emissions Estimator Model (CalEEMod) (Version 2016.3.2) assumes that the GWP for CH<sub>4</sub> is 25 (so emissions of 1 MT of CH<sub>4</sub> are equivalent to emissions of 25 MT of CO<sub>2</sub>), and the GWP for N<sub>2</sub>O is 298, based on the IPCC Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the proposed project.

## Sources of GHG Emissions

### *Global Inventory*

Anthropogenic GHG emissions worldwide in 2014 (the most recent year for which data is available) totaled approximately 45,741 million metric tons (MMT) CO<sub>2</sub>e, excluding land use change and forestry (WRI 2015). Six countries—China, the United States, the Russian Federation, India, Japan, and Brazil—and the European community accounted for approximately 65% of the total global emissions, approximately 29,920 MMT CO<sub>2</sub>e (WRI 2015). Table 4.8-1 presents the top GHG-emissions-producing countries.

**Table 4.8-1**  
**Six Top GHG Producer Countries and the European Union**

Emitting Countries	GHG Emissions (MMT CO <sub>2</sub> e)
China	11,911.71
United States	6,371.10
European Union	4,053.66
India	3,079.81
Russian Federation	2,137.83
Japan	1,314.59
Brazil	1,051.00
<b>Total</b>	<b>29,919.70</b>

Source: WRI 2015.

Notes: MMT CO<sub>2</sub>e = million metric tons of carbon dioxide equivalent

### *National and State Inventories*

Per the U.S. Environmental Protection Agency's (EPA's) Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2015 (EPA 2017b), total U.S. GHG emissions were approximately 6,586.7 MMT CO<sub>2</sub>e in 2015. The primary GHG emitted by human activities in the United States was CO<sub>2</sub>, which represented approximately 82.2% of total GHG emissions (5,411.4 MMT CO<sub>2</sub>e). The largest source of CO<sub>2</sub>, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 93.3% of CO<sub>2</sub> emissions in 2015 (5,049.8 MMT CO<sub>2</sub>e). Relative to 1990, gross United States GHG emissions in 2015 are higher by 3.5%, down from a high of 15.5% above 1990 levels in 2007. GHG emissions decreased from 2014 to 2015 by 2.3% (153.0 MMT CO<sub>2</sub>e) and overall, net emissions in 2015 were 11.5% below 2005 levels (EPA 2017b).

According to California’s 2000–2015 GHG emissions inventory (2017 edition), California emitted 440.36 MMT CO<sub>2</sub>e in 2015, including emissions resulting from out-of-state electrical generation (CARB 2017a). The sources of GHG emissions in California include transportation, industrial uses, electric power production from both in-state and out-of-state sources, commercial and residential uses, agriculture, high GWP substances, and recycling and waste. The California GHG emission source categories (as defined in CARB’s 2008 *Climate Change Scoping Plan: A Framework for Change* (Scoping Plan; CARB 2008)) and their relative contributions in 2015 are presented in Table 4.8-2.

**Table 4.8-2**  
**GHG Emissions Sources in California**

Source Category	Annual GHG Emissions (MMT CO <sub>2</sub> e)	Percent of Total <sup>1</sup>
Transportation	164.63	37%
Industrial uses <sup>2</sup>	91.71	21%
Electricity generation <sup>3</sup>	83.67	19%
Residential and commercial uses	37.92	9%
Agriculture	34.65	8%
High GWP substances	19.05	4%
Recycling and waste	8.73	2%
<b>Totals</b>	<b>440.36</b>	<b>100%</b>

Source: CARB 2017a.

Notes: GHG = greenhouse gas; MMT CO<sub>2</sub>e = million metric tons of carbon dioxide equivalent per year. Emissions reflect 2015 California GHG inventory.

<sup>1</sup> Percentage of total has been rounded and total may not sum due to rounding.

<sup>2</sup> The Aliso Canyon natural gas leak event released 1.96 MMT CO<sub>2</sub>e of unanticipated emissions in 2015 and 0.52 MMT CO<sub>2</sub>e in 2016. These leak emissions will be fully mitigated according to legal settlement and are tracked separately from routine inventory emissions.

<sup>3</sup> Includes emissions associated with imported electricity, which account for 33.74 MMT CO<sub>2</sub>e.

## Carbon Sequestration

Carbon sequestration is the process by which CO<sub>2</sub> is removed from the atmosphere and deposited into a carbon reservoir (e.g., vegetation). Trees and vegetation take in CO<sub>2</sub> from the atmosphere during photosynthesis, break down the CO<sub>2</sub>, store the carbon within plant parts, and release the oxygen back into the atmosphere (CARB 2017a). A development that changes land use type results in potential release of sequestered carbon to the atmosphere as CO<sub>2</sub>, which would not have been released had there been no land-type change. The planting of new trees and vegetation would store new carbon as their wood mass increases through normal growth. This GHG analysis estimates the loss of sequestered carbon associated with the proposed land use change.

## Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The

2014 *Intergovernmental Panel on Climate Change Synthesis Report* indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, and rising sea levels (IPCC 2014).

In California, climate change impacts have the potential to affect sea level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply (California Climate Change Center [CCCC] 2006). The primary effect of global climate change has been a 0.2° Celsius (°C) rise in average global tropospheric temperature per decade, determined from meteorological measurements worldwide between 1990 and 2005. Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. A warming of about 0.2°C (0.36° Fahrenheit (°F)) per decade is projected, and there are identifiable signs that global warming could be taking place.

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased, leading to more extreme hot days and fewer cold nights; shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (California Climate Action Team [CAT] 2010).

An increase in annual average temperature is a reasonably foreseeable effect of climate change. Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada (CCCC 2012). By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1 to 8.6°F, depending on emissions levels. Springtime warming—a critical influence on snowmelt—will be particularly pronounced. Summer temperatures will rise more than winter temperatures, and the increases will be greater in inland California, compared to the coast. Heat waves will be more frequent, hotter, and longer. There will be fewer extremely cold nights (CCCC 2012). A decline of Sierra snowpack, which accounts for approximately half of the surface water storage in California and much of the state’s water supply, by 30% to as much as 90% is predicted over the next 100 years (CAT 2006).

Model projections for precipitation over California continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability. For the first time, however, several of the improved climate models shift toward drier conditions

by the mid-to-late twenty-first century in central and, most notably, Southern California. By late-century, projections show drying, and half of them suggest 30-year average precipitation will decline by more than 10% below the historical average (CCCC 2012).

A summary of current and future climate change impacts to resource areas in California, as discussed in the *Safeguarding California: Reducing Climate Risk* (California Natural Resources Agency [CNRA] 2014), is provided below.

**Agriculture.** The agriculture sector and farmers face some specific challenges that include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding to extreme drought, to destructive storm events; significant shifts in water availability and water quality; changes in pollinator lifecycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production. These challenges and associated short-term and long-term impacts can have both positive and negative effects on agricultural production.

**Biodiversity and Habitat.** The state’s extensive biodiversity stems from its varied climate and assorted landscapes, which have resulted in numerous habitats where species have evolved and adapted over time. Specific climate change challenges to biodiversity and habitat include species migration in response to climatic changes, range shift and novel combinations of species; pathogens, parasites and disease; invasive species; extinction risks; changes in the timing of seasonal life-cycle events; food web disruptions; threshold effects (i.e., a change in the ecosystem that results in a “tipping point” beyond which irreversible damage or loss has occurs). Habitat restoration, conservation, and resource management across California and through collaborative efforts amongst public, private, and nonprofit agencies has assisted in the effort to fight climate change impacts on biodiversity and habitat. One of the key measures in these efforts is ensuring species’ ability to relocate as temperature and water availability fluctuate as a result of climate change, based on geographic region.

**Energy.** The energy sector provides California residents with a supply of reliable and affordable energy through a complex integrated system. Specific climate change challenges for the energy sector include temperature, fluctuating precipitation patterns, increasing extreme weather events, and sea level rise. Increasing temperatures and reduced snowpack negatively impact the availability of a steady flow of snowmelt to hydroelectric reservoirs. Higher temperatures also reduce the capacity of thermal power plants since power plant cooling is less efficient at higher ambient temperatures. Increased temperatures will also increase electricity demand associated with air conditioning. Natural gas infrastructure in coastal California is threatened by sea level rise and extreme storm events.

**Forestry.** Forests occupy approximately 33% of California’s 100 million acres and provide key benefits such as wildlife habitat, absorption of carbon dioxide, renewable energy, and building materials. The most significant climate change related risk to forests is accelerated risk of wildfire and more frequent and severe droughts. Droughts have resulted in more large scale mortalities and combined with increasing temperatures have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts, and vegetation conversions. These factors contribute to decreased forest growth, geographic shifts in tree distribution, loss of fish and wildlife habitat, and decreased carbon absorption. Climate change may result in increased establishment of non-native species, particularly in rangelands where invasive species are already a problem. Invasive species may be able to exploit temperature or precipitation changes, or quickly occupy areas denuded by fire, insect mortality, or other climate change effects on vegetation.

**Ocean and Coastal Ecosystems and Resources.** Sea level rise, changing ocean conditions, and other climate change stressors are likely to exacerbate long-standing challenges related to ocean and coastal ecosystems in addition to threatening people and infrastructure located along the California coastline and in coastal communities. Sea level rise in addition to more frequent and severe coastal storms and erosion are threatening vital infrastructure such as roads, bridges, power plants, ports and airports, gasoline pipes, and emergency facilities, as well as negatively impacting the coastal recreational assets such as beaches and tidal wetlands. Water quality and ocean acidification threaten the abundance of seafood and other plant and wildlife habitats throughout California and globally.

**Public Health.** Changes in precipitation patterns affect public health primarily through potential for altered water supplies, and extreme events such as heat, floods, droughts, and wildfires. Increased frequency, intensity, and duration of extreme heat and heat waves is likely to increase the risk of mortality due to heat-related illness, as well as exacerbate existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness such as asthma and allergies. Additional health impacts that may be impacted by climate change include cardiovascular disease, vector-borne diseases, mental health impacts, and malnutrition injuries. Increased frequency of these ailments is likely to subsequently increase the direct risk of injury and/or mortality.

**Transportation.** Residents of California rely on airports, seaports, public transportation, and an extensive roadway network to gain access to destinations, goods, and services. While the transportation industry is a source of GHG emissions, it is also vulnerable to climate change risks. Particularly, sea level rise and erosion threaten many coastal California roadways, airports, seaports, transit systems, bridge supports, and energy and fueling infrastructure. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail

lines. High temperatures cause the road surfaces to expand, which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages, which could lead to train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure, which can impair movement of peoples and goods, or potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion risks, landslides, mudslides, and rockslides can profoundly impact the transportation system and pose a serious risk to public safety.

**Water.** Climate change could seriously impact the timing, form, amount of precipitation, runoff patterns, and frequency and severity of precipitation events. Higher temperatures reduce the amount of snowpack and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems, and winter recreation. Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during the winter time. Increased risk of flooding has a variety of public health concerns including water quality, public safety, property damage, displacement, and post-disaster mental health problems. Prolonged and intensified droughts can also negatively affect groundwater reserves and result in increased overdraft and subsidence. Droughts can also negatively impact agriculture and farmland throughout the state. The higher risk of wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality. Water temperatures are also prone to increase, which can negatively impact wildlife that rely on a specific range of temperatures for suitable habitat.

In March 2016, the CNRA released *Safeguarding California: Implementation Action Plans*, a document that shows how California is acting to convert the recommendations contained in the 2014 *Safeguarding California* plan into action (CNRA 2016). Additionally, in May 2017, CNRA released the draft *Safeguarding California Plan: 2017 Update*, which is a survey of current programmatic responses for climate change and contains recommendations for further actions (CNRA 2017).

The CNRA released *Safeguarding California Plan: 2018 Update* in January 2018, which provides a roadmap for state agencies to protect communities, infrastructure, services, and the natural environment from climate change impacts. The 2018 *Safeguarding California Plan* includes 69 recommendations across 11 sectors and more than 1,000 ongoing actions and next steps developed by scientific and policy experts across 38 state agencies (CNRA 2018). As with previous state adaptation plans, the 2018 Update addresses the following: acceleration of warming across the state, more intense and frequent heat waves, greater riverine flows, accelerating sea level rise, more intense and frequent drought, more severe and frequent wildfires, more severe storms and extreme weather events, shrinking snowpack and less overall precipitation, and ocean acidification, hypoxia, and warming.

## 4.8.2 Regulatory Setting

### Federal

#### *Massachusetts v. EPA.*

In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

1. The administrator found that elevated concentrations of GHGs—CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>—in the atmosphere threaten the public health and welfare of current and future generations. This is the “endangerment finding.”
  - a. The administrator further found the combined emissions of GHGs—CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the “cause or contribute finding.”

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

#### *Energy Independence and Security Act*

The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions (EPA 2007):

1. Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
2. Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
  - a. Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

### *Federal Vehicle Standards*

In response to the U.S. Supreme Court ruling discussed above, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016 (75 FR 25324–25728).

In 2010, President Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams/mile of CO<sub>2</sub> in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021 (77 FR 62624–63200), and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking. However, in April 2018, the EPA issued a mid-term evaluation determination, finding that the standards for model years 2022–2025 are not appropriate and should be revised during additional rulemaking proceedings. In May 2018, California and 17 other states representing over 40% of the U.S. car market filed a lawsuit challenging the EPA’s mid-term evaluation determination.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO<sub>2</sub> emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines (76 FR 57106–57513).

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types of sizes of buses and work trucks. The final standards are expected to lower carbon dioxide emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

## State

### *State Climate Change Targets*

**EO S-3-05.** EO S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010; GHG emissions should be reduced to 1990 levels by 2020; and GHG emissions should be reduced to 80% below 1990 levels by 2050.

**AB 32 and CARB's Climate Change Scoping Plan.** In furtherance of the goals established in EO S-3-05, the Legislature enacted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020.

Under AB 32, CARB is responsible for and is recognized as having the expertise to carry out and develop the programs and requirements necessary to achieve the GHG emissions reduction mandate of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions from specified sources. This program is used to monitor and enforce compliance with established standards. CARB also is required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 relatedly authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

In 2007, CARB approved a limit on the statewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO<sub>2</sub>e). CARB's adoption of this limit is in accordance with the California Health and Safety Code, Section 38550.

Further, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change* (Scoping Plan) in accordance with Health and Safety Code, Section 38561. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction features by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
2. Achieving a statewide renewable energy mix of 33%

3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California’s GHG emissions
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
5. Adopting and implementing measures pursuant to existing state laws and policies, including California’s clean car standards, goods movement measures, and the Low Carbon Fuel Standard
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California’s long-term commitment to AB 32 implementation

In the Scoping Plan, CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5% from the otherwise projected 2020 emissions level (i.e., those emissions that would occur in 2020, absent GHG-reducing laws and regulations (referred to as “Business-As-Usual”). For purposes of calculating this percent reduction, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the Scoping Plan’s Functional Equivalent Document, CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7% (down from 28.5%) from the Business-As-Usual conditions. When the 2020 emissions level projection also was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewables Portfolio Standard (RPS; CPUC 2015; 12% to 20%), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16% (down from 28.5%) from the Business-As-Usual conditions.

More recently, in 2014, CARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework* (First Update). The stated purpose of the First Update is to “highlight California’s success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80% below 1990 levels by 2050” (CARB 2014). The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32, and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80% below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the First Update, CARB identified “six key focus areas comprising major components of the state’s economy to evaluate and describe the larger transformative actions that will be needed to meet the state’s more expansive emission reduction needs by 2050” (CARB 2014). Those six areas are (1) energy, (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure), (3) agriculture, (4) water, (5) waste management, and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05’s 2050 reduction goal.

CARB’s research efforts presented in the First Update indicate that it has a “strong sense of the mix of technologies needed to reduce emissions through 2050” (CARB 2014). Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

As part of the First Update, CARB recalculated the state’s 1990 emissions level using more recent GWPs identified by the IPCC. Using the recalculated 1990 emissions level (431 MMT CO<sub>2e</sub>) and the revised 2020 emissions level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15% (instead of 28.5% or 16%) from the Business-As-Usual conditions.

On January 20, 2017, CARB released *The 2017 Climate Change Scoping Plan Update* (Second Update) for public review and comment (CARB 2017b). This update presents CARB’s strategy for achieving the state’s 2030 GHG target as established in SB 32 (discussed below), including continuing the Cap-and-Trade Program through 2030, and includes a new approach to reduce GHGs from refineries by 20%. The Second Update incorporates approaches to cutting short-lived climate pollutants (SLCPs) under the Short-Lived Climate Pollutant Reduction Strategy (a planning document that was adopted by CARB in March 2017), and acknowledges the need for reducing emissions in agriculture and highlights the work underway to ensure that California’s natural and working lands increasingly sequester carbon. During development of the Second Update, CARB held a number of public workshops in the Natural and Working Lands, Agriculture, Energy, and Transportation sectors to inform development of the 2030 Scoping Plan Update (CARB 2016). When discussing project-level GHG emissions reduction actions and thresholds, the Second Update states “achieving no net increase in GHG emissions is the correct overall objective, but it may not be appropriate or feasible for every development project. An inability to mitigate a project’s GHG emissions to zero does not necessarily imply a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA” (CARB 2017b). The Second Update was approved by CARB’s Governing Board on December 14, 2017.

**EO B-30-15.** EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB’s Scoping Plan to express the 2030 target in terms of MMT CO<sub>2e</sub>. The EO also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

**SB 32 and AB 197.** SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction targets, make changes to CARB’s membership and increase legislative oversight of CARB’s climate change-based activities, and expand dissemination of GHG and other air quality-related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state’s climate policies. AB 197 also added two members of the Legislature to CARB as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and, requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

**SB 605 and SB 1383.** SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of SLCPs in the state; and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of SLCPs (40% below 2013 levels by 2030 for CH<sub>4</sub> and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its *Short-Lived Climate Pollutant Reduction Strategy* (SLCP Reduction Strategy) in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, CH<sub>4</sub> and fluorinated gases.

### ***Building Energy***

**Title 24, Part 6.** Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California’s building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy

efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code, Section 25402(b)(1)). The regulations receive input from members of industry, as well as the public, with the goal of “reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy” (California Public Resources Code, Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402(d)) and cost effectiveness (California Public Resources Code, Sections 25402(b)(2) and (b)(3)). These standards are updated to consider and incorporate new energy-efficient technologies and construction methods. As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2016 Title 24 standards are the currently applicable building energy efficiency standards, and became effective on January 1, 2017. In general, single-family homes built to the 2016 standards are anticipated to use about 28% less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards, and nonresidential buildings built to the 2016 standards will use an estimated 5% less energy than those built to the 2013 standards (CEC 2015a).

The 2019 Title 24 standards were approved and adopted by the California Building Standards Commission in December 2018. The 2019 standards will become effective January 1, 2020. The standards would require that all low-rise residential buildings shall have a PV system meeting the minimum qualification requirements such that annual electrical output equal to or greater than the dwelling’s annual electrical usage. Notably, net energy metering rules limit residential rooftop solar generation to produce no more electricity than the home is expected to consume on an annual basis. Single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards.

The California Public Utilities Commission (CPUC), CEC, and CARB previously established a goal of achieving zero net energy (ZNE) for new construction in California. The key policy timelines include (1) all new residential construction in California will be ZNE by 2020, and (2) all new commercial construction in California will be ZNE by 2030 (CPUC 2013). As most recently defined by the CEC in its 2015 *Integrated Energy Policy Report*, a ZNE code building is “one where the value of the energy produced by on-site renewable energy resources is equal to the value of the energy consumed annually by the building” using the CEC’s Time Dependent Valuation metric (CEC 2015b).

The 2019 Title 24 standards take a significant step towards the state’s ZNE goal. However, as explained by the CEC, California’s energy landscape has changed since the ZNE target was set. Electricity produced for the grid now comes substantially from renewables, and 60

percent renewable electricity generation is required by 2030. Further, new net energy metering rules also limit the amount of residential rooftop solar generation to no more electricity production than the home is annually expected to consume.

The 2019 Title 24 standards therefore focus on building energy efficiency and ensuring solar electricity generated onsite is used onsite. “Looking beyond the 2019 standards, the most important energy characteristic for a building will be that it produces and consumes energy at times that are appropriate and responds to the needs of the grid, which reduces the building’s emissions” (CEC 2018). In furtherance of that characteristic, the 2019 standards require that new homes include solar PV to meet the home's expected annual electric needs, and also encourage demand responsive technologies including battery storage, heat pump water heaters, and improving the building’s thermal envelope through high performance attics, walls and windows. These smarter homes perform better and affect the grid less, which reduces the building's GHG emissions.

***Title 24, Part 11.*** In addition to the CEC’s efforts, in 2008, the California Building Standards Commission adopted the nation’s first green building standards. The California Green Building Standards Code (CALGreen 2016) is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The CALGreen 2016 standards became effective on January 1, 2017. The mandatory standards require the following (CALGreen 2016):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources’ Model Water Efficient Landscape Ordinance
- 65% of construction and demolition waste must be diverted from landfills
- Mandatory inspections of energy systems to ensure optimal working efficiency
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations
- Low-pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen’s Tier 1 standards call for a 15% improvement in energy requirements, stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen’s more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 75% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs. The California Building Standards Commission approved amendments to the voluntary measures of the CALGreen standards in December 2018. The 2019 CALGreen standards will become effective January 1, 2020. As with the 2019 Title 24 standards, the 2019 CALGreen standards focus on building energy efficiency. As previously discussed, current CalGreen Tier 1 and 2 structure relies on percentage targets of 15 percent and 30 percent above standard code. These percentages would be replaced by Energy Design Rating (EDR) scores; somewhere between 14 and 12 for Tier 1 and 0 for Tier 2, where an EDR score of 0 is the threshold for Zero Net Energy code building.

**Title 20.** Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through the CEC to demonstrate compliance with standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwashers; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing for each type of appliance covered under the regulations, and appliances must meet the standards for energy performance, energy design, water performance and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

**SB 1.** SB 1 (2006) established a \$3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry in which solar energy systems are a viable mainstream option for both homes and businesses within 10 years of adoption, and to place solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed “GoSolarCalifornia,” was previously titled “Million Solar Roofs.”

**AB 1470.** This bill established the Solar Water Heating and Efficiency Act of 2007. The bill makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. The bill defines several terms for purposes of the act. The bill requires the commission to evaluate the data available from a specified pilot program, and, if it makes a specified determination, to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

**AB 1109.** Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general purpose lighting, to reduce electricity consumption 50% for indoor residential lighting and 25% for indoor commercial lighting.

### ***Renewable Energy and Energy Procurement***

**SB 1078.** SB 1078 (2002) established the RPS program, which requires an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010.

**SB 1368.** SB 1368 (2006) requires the CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the CPUC. This effort will help protect energy customers from financial risks associated with investments in carbon-intensive generation by allowing new capital investments in power plants whose GHG emissions are as low as or lower than new combined-cycle natural gas plants by requiring imported electricity to meet GHG performance standards in California and by requiring that the standards be developed and adopted in a public process.

**SB X1 2.** SB X1 2 (2011) expanded the RPS by establishing that 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years be secured from qualifying renewable energy sources. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location. In addition to the retail sellers previously covered by the RPS, SB X1 2 added local, publicly owned electric utilities to the RPS.

**SB 350.** SB 350 (2015) further expanded the RPS by establishing that 50% of the total electricity sold to retail customers in California per year by December 31, 2030, be secured from qualifying renewable energy sources. In addition, SB 350 includes the goal to double the energy efficiency

savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

### ***Mobile Sources***

***AB 1493.*** In a response to the transportation sector accounting for more than half of California’s CO<sub>2</sub> emissions, AB 1493 was enacted in July 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22% in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30%.

***EO S-1-07.*** Issued on January 18, 2007, EO S-1-07 sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO<sub>2e</sub> grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources, such as algae, wood, and agricultural waste. In September 2018, CARB adopted regulatory amendments to extend the LCFS for an additional 10 years with a target of 20% carbon intensity reduction from 2010 levels by 2030.

***SB 375.*** SB 375 (2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations are then responsible for preparing a Sustainable Communities Strategy (SCS) within their Regional Transportation Plan (RTP). The goal of the SCS is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If an SCS is unable to achieve the GHG reduction target, a metropolitan planning organization must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to Government Code, Section 65080(b)(2)(K), an SCS does not (1) regulate the use of land; (2) supersede the land use authority of cities and counties; or (3) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

In 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations. The targets for San Diego Association of Governments (SANDAG) are a 7% reduction in emissions per capita by 2020 and a 13% reduction by 2035.

SANDAG completed and adopted its *2050 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) in October 2011 (SANDAG 2011). In November 2011, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

After SANDAG's 2050 RTP/SCS was adopted, a lawsuit was filed by the Cleveland National Forest Foundation and others. The case was decided in July 2017, and the court found that the EIR's did not have to use EO S-3-05's 2050 goal of an 80% reduction in GHG emissions from 1990 levels as a threshold because the EIR sufficiently informed the public of the potential impacts.

Although the EIR for SANDAG's 2050 RTP/SCS is pending before the California Supreme Court, in 2015, SANDAG adopted the next iteration of its RTP/SCS in accordance with statutorily mandated timelines, and no subsequent litigation challenge was filed. More specifically, in October 2015, SANDAG adopted *San Diego Forward: The Regional Plan* (Regional Plan). Like the 2050 RTP/SCS, this planning document meets CARB's 2020 and 2035 reduction targets for the region (SANDAG 2015). In December 2015, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region. In March 2018, CARB approved updates to the SB 375 GHG emission reduction targets including a reduction of 15% reduction in emissions per capita by 2020 and a 19% reduction by 2035 for SANDAG. SANDAG will demonstrate progress towards meeting the updated GHG emission reduction targets in the next update to the RTP/SCS.

***Advanced Clean Cars Program.*** In January 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2011). To improve air

quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold before 2012. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The Zero Emissions Vehicle (ZEV) program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 to 2025 model years. The Clean Fuels Outlet regulation will ensure that fuels such as electricity and hydrogen are available to meet the fueling needs of the new advanced technology vehicles as they come to the market.

**EO B-16-12.** EO B-16-12 (2012) directs state entities under the governor’s direction and control to support and facilitate development and distribution ZEVs. This EO also sets a long-term target of reaching 1.5 million ZEVs on California’s roadways by 2025. On a statewide basis, EO B-16-12 also establishes a GHG emissions reduction target from the transportation sector equaling 80% less than 1990 levels by 2050. In furtherance of this EO, the Governor convened an Interagency Working Group on ZEVs that has published multiple reports regarding the progress made on the penetration of ZEVs in the statewide vehicle fleet.

**AB 1236.** AB 1236 (2015) as enacted in California’s Planning and Zoning Law, requires local land use jurisdictions to approve applications for the installation of electric vehicle charging stations, as defined, through the issuance of specified permits unless there is substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill provides for appeal of that decision to the planning commission, as specified. The bill requires local land use jurisdictions with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that creates an expedited and streamlined permitting process for electric vehicle charging stations, as specified. Prior to this statutory deadline, in August 2016, the County Board of Supervisors adopted Ordinance No. 10437 (N.S.) adding a section to its County Code related to the expedited processing of electric vehicle charging stations permits consistent with AB 1236.

**SB 350.** In 2015, SB 350—the Clean Energy and Pollution Reduction Act—was enacted into law. As one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state’s 2030 and 2050 reduction targets (see Public Utilities Code, Section 740.12).

**EO B-48-18.** In January 2018, Governor Brown issued EO B-48-18, which directs all state entities to work with the private sector and all appropriate levels of government to put at least 5 million ZEVs on California roads by 2030. Those same entities are directed to spur the construction and installation of an extensive hydrogen fueling and electric charging network.

### *Solid Waste*

**AB 939 and AB 341.** In 1989, AB 939, known as the Integrated Waste Management Act (Public Resources Code, Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

AB 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020 and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state’s policy goal. CalRecycle has conducted multiple workshops and published documents that identify priority strategies that CalRecycle believes would assist the state in reaching the 75% goal by 2020.

### *Water*

**EO B-29-15.** In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have since become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

### *Other State Regulations and Goals*

**SB 97.** SB 97 (Dutton) (August 2007) directed the Governor’s Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project’s GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The California Natural Resources Agency adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4(a)). The Guidelines require a lead agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)). The Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The California Natural Resources Agency also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project’s GHG emissions (CNRA 2009a).

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should “make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate” GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a “model or methodology” to quantify the emissions or by relying on “qualitative analysis or other performance based standards” (14 CCR 15064.4(a)). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

**EO S-13-08.** EO S-13-08 (November 2008) is intended to hasten California’s response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The final *2009 California Climate Adaptation Strategy* report was issued in December 2009 (CNRA 2009a), and an update, *Safeguarding California: Reducing Climate Risk*, followed in July 2014 (CNRA 2014). To assess the state’s vulnerability, the report summarizes key climate change impacts to the state for the following areas: Agriculture, Biodiversity and Habitat, Emergency Management, Energy, Forestry, Ocean and Coastal Ecosystems and Resources, Public Health, Transportation, and Water. Issuance of the *Safeguarding California: Implementation Action Plans* followed in March 2016 (CNRA 2016). Presently, a draft of the *Safeguarding California Plan: 2017 Update* is being prepared to communicate current and needed actions that state government should take to build climate change resiliency (CNRA 2017).

**2015 State of the State Address.** In January 2015, Governor Brown in his inaugural address and annual report to the Legislature established supplementary goals which would further reduce GHG emissions over the next 15 years. These goals include an increase in California’s renewable energy portfolio from 33% to 50%, a reduction in vehicle petroleum use for cars and trucks by up to 50%, measures to double the efficiency of existing buildings, and decreasing emissions associated with heating fuels.

**2016 State of the State Address.** In his January 2016 address, Governor Brown established a statewide goal to bring per capita GHG emission down to two tons per person, which reflects the goal of the Global Climate Leadership Memorandum of Understanding (Under 2 MOU) to limit global warming to less than 2°C by 2050. The Under 2 MOU agreement pursues emission reductions of 80% to 95% below 1990 levels by 2050 and/or reach a per-capita annual emissions goal of less than 2 metric tons by 2050. A total of 187 jurisdictions representing 38 countries and 6 continents, including California, have signed or endorsed the Under 2 MOU (Under 2 Coalition 2017).

## **Local**

### ***City of Oceanside***

#### General Plan

The City of Oceanside’s (City’s) General Plan Circulation Element includes goals and policies to reduce GHG emissions within the City (City of Oceanside 2002). The following goals and policies from the City’s General Plan are relevant to the proposed project:

#### Circulation Element

- **Policy 2.5:** The City will strive to incorporate complete streets throughout the Oceanside transportation network which are designed and constructed to serve all users of streets, roads and highways, regardless of their age or ability, or whether they are driving, walking, bicycling, or using transit.
- **Pedestrian Facilities**
  - **Goal 5:** Support walking as a primary means of transportation that in turn supports transit and bike options. A positive walking environment is essential for supporting smart growth, mixed land uses, transit oriented development, traffic calming and reducing traffic congestion and greenhouse gas emissions.
- **Intelligent Transportation System Technologies**
  - **Policy 4.1:** The City shall encourage the reduction of vehicle miles traveled, reduction of the total number of daily and peak hour vehicle trips, and provide better utilization of the

circulation system through development and implementation of TDM strategies. These may include, but not limited to, implementation of peak hour trip reduction, encourage staggered work hours, telework programs, increased development of employment centers where transit usage is highly viable, encouragement of ridesharing options in the public and private sector, provision for park-and-ride facilities adjacent to the regional transportation system, and provision for transit subsidies.

- **Transportation Demand Management**
  - **Policy 4.9:** The City shall look for opportunities to incorporate TDM [transportation demand management] programs into their Energy Roadmap that contributes to state and regional goals for saving energy and reducing greenhouse gas emissions.

#### Land Use Element

- **Air Quality**
  - The City will continue to cooperate with the SDAPCD Board. This will include participation in the development of the Regional Air Quality Strategy (RAQS) through cooperation with the San Diego County Air Quality Planning Team.
- **Bicycle Facilities**
  - **Policy A:** Development shall provide Class II Bikeways (Bike Lanes) on all secondary, major, and prime arterials.
  - **Policy D:** The use of land shall integrate the Bicycle Circulation System with auto, pedestrian, and transit systems:
    1. Development shall provide short-term bicycle parking and long-term bicycle storage facilities such as bicycle racks, pedestal posts, and rental bicycle lockers.
    2. Development shall provide safe and convenient bicycle access to high activity land uses, such as schools, parks, shopping, employment, and entertainment centers.
- **Pedestrian**
  - **Policy A:** The construction of five (5) foot wide sidewalks adjacent to the curb shall be required in all new developments and street improvements.
- **Transit System**
  - **Policy A:** The City shall coordinate and encourage the existing bus system to serve newly developed areas.
- **Energy**
  - **Policy A:** The City shall encourage the design, installation, and use of passive and active solar collection systems.

- **Policy B:** The City shall encourage the use of energy efficient design, structures, materials, and equipment in all land developments or uses.

#### Environmental Resource Management Element

- a. The City will continue to cooperate with the SDAPCD Board. This will include participation in the development of the Regional Air Quality Strategy (RAQS) through cooperation with the San Diego County Air Quality Planning Team.

#### ***Oceanside Draft Climate Action Plan and Energy and Climate Action Element***

The City has held public workshops on the City’s General Plan Update, which includes development of a draft Climate Action Plan (CAP) and a draft policy framework for the General Plan Energy and Climate Action Element (E-CAP). The E-CAP is intended to proactively support statewide efforts to cut GHG emissions by expanding local renewable energy generation, reducing energy use, promoting recycling and reuse, facilitating active transportation, and encouraging other sustainable practices. The E-CAP will build upon a variety of City projects that promote energy efficiency, increased renewable energy use, water conservation, and solid waste reduction. These include the Oceanside Boulevard Vision Statement, which encourages the restoration of Loma Alta Creek in conjunction with a transit-oriented mixed-use development; the Coast Highway Vision and Strategic Plan, which promotes environmentally and economically sustainable infill and redevelopment within the Coast Highway corridor; the Water Conservation Master Plan; the Zero Waste Plan; and the Energy Roadmap. As part of this effort to ensure a sustainable future, the City is now preparing a GHG emissions inventory and a Climate Action Plan, both of which will inform the E-CAP. In conjunction with developing a CAP, the City has established efficiency metric thresholds, which projects are to use to evaluate impacts from GHG emissions, in order to help the City to meet state reduction targets for 2020 and 2030. Projects are required to meet an efficiency metric threshold of 4.0 MT of CO<sub>2</sub>e per service population per year (MT CO<sub>2</sub>e/SP/yr) for year 2020 and an efficiency metric threshold of 3.0 MT CO<sub>2</sub>e/SP/yr for year 2030. Projects that meet these thresholds would be considered consistent with the City’s CAP. The final CAP is anticipated to be released in 2019.

### **4.8.3 Thresholds of Significance**

The significance criteria used to evaluate the project impacts to greenhouse gases/climate change are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to greenhouse gas emissions would occur if the proposed project would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

As stated in CEQA Guidelines Section 15064.4(b)(1)-(3), “a lead agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment: (1) the extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether project emissions exceed a threshold of significance that the lead agency determines applies to the project; and, (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.”

Section 15064(h)(3) of the CEQA Guidelines also states that “a lead agency may determine that a project’s incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located.”

The CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific quantitative thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency’s discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009b).

The OPR Technical Advisory titled *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act Review* states that “public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact” (OPR 2008). Furthermore, the advisory document indicates that “in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a ‘significant impact,’ individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice.”

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established quantitative thresholds for assessing whether the GHG emissions of a project, such as the proposed project, would be considered a cumulatively considerable contribution to global climate change; however, reasonable efforts should be made to minimize a project’s contribution to global climate change. In addition, while GHG impacts

are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated on a project-level under CEQA.

### **City of Oceanside**

As the lead agency, the City has the discretion to choose the significance threshold for discretionary projects. Consistent with recent projects certified by the City, the proposed project will use a 900 MT CO<sub>2e</sub> per year screening threshold consistent with the California Air Pollution Control Officers Association (CAPCOA) interim screening level as discussed below.

The analysis for compliance with regulatory programs only applies to the individual area addressed by the regulatory program. If the proposed project is determined to have GHG emissions less than 900 MT CO<sub>2e</sub> per year, then the proposed project's cumulative contribution of GHG emissions would be considered less than significant. Conversely, if the proposed project is determined to exceed the 900 MT CO<sub>2e</sub> per year threshold, then the proposed project would be compared to an efficiency metric, also called a service population, threshold developed specifically for the City and the proposed project's buildout year to evaluate the potential for the proposed project to result in a significant GHG emissions impact.

An efficiency metric approach, which is the basis for the GHG emission reduction targets established in the City's draft CAP, is appropriate for the proposed project because it measures the proposed project's emissions on a per-service population basis to determine its overall GHG efficiency relative to regulatory GHG reduction goals. Under the efficiency metric, the proposed project's GHG emissions are evaluated herein relative to the emissions level in the proposed project's build-out year and the build-out year's associated efficiency metric. To that end, an efficiency metric threshold was calculated based on the interpolation between the City's 2020 and 2030 efficiency metric thresholds as discussed below.

As there are no emissions, employment, or population data specific to the proposed project's build-out year (2025), an efficiency metric was generated for year 2025 by interpolating the efficiency metrics for years 2020 and 2030. The 2020 efficiency metric was estimated to be 4.0 MT CO<sub>2e</sub>/SP/yr. The 4.0 MT CO<sub>2e</sub>/SP/yr was arrived at by dividing the City's anticipated 2020 GHG emissions (889,200 MT CO<sub>2e</sub>) by the total number of residents and employees (i.e., service population) anticipated to exist within the City in 2020 (226,039 people). The 2020 efficiency target was established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2030 efficiency metric was estimated to be 3.0 MT CO<sub>2e</sub>/SP/yr. Like the 2020 threshold, the 3.0 MT CO<sub>2e</sub>/SP/yr was arrived at by dividing the City's anticipated 2030 GHG emissions (739,764 MT CO<sub>2e</sub>) by the service population in 2030 (236,207 people). The 2030 target were selected to be consistent with the GHG reduction target date of SB 32. Because the

efficiency metric threshold is based on the City’s GHG emissions inventory and anticipated service population, the threshold is geographically and jurisdictionally specific to the City.

The efficiency metric for 2020, 2030, and the interpolation for 2025 are illustrated below in Table 4.8-3. If the proposed project achieves the 2025 efficiency metric, the proposed project would not interfere with the state’s ability to achieve the mid-term and long-term GHG reduction targets per SB 32 and EO S-3-05. As shown in Table 4.8-3, the calculated efficiency metric for 2025 was 3.5 MT CO<sub>2</sub>e/SP/yr.

**Table 4.8-3  
2025 Interpolated Efficiency Metric**

	2020 Efficiency Metric (MT CO <sub>2</sub> e/SP/yr)	2030 Efficiency Metric (MT CO <sub>2</sub> e/SP/yr)	2025 Efficiency Metric <sup>1</sup> (MT CO <sub>2</sub> e/SP/yr)
2025 Efficiency Metric	4.0	3.0	3.5

**Notes:** MT = metric ton; CO<sub>2</sub>e = carbon dioxide equivalent; SP = service population; yr = year

<sup>1</sup> The 2025 efficiency metric was calculated as follows:  $((2030 \text{ Efficiency Metric} - 2020 \text{ Efficiency Metric}) \div (2030 - 2020)) \times (2025 - 2020) + (2025 \text{ Efficiency Metric})$ .

#### 4.8.4 Impacts Analysis

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

##### Construction Related GHG Emissions

Refer to Section 4.3, Air Quality, and Appendix H for complete details regarding construction assumption methodology. Table 4.8-4, Estimated Annual Construction GHG Emissions, shows the estimated annual GHG construction emissions associated with the proposed project by year.

**Table 4.8-4  
Estimated Annual Construction GHG Emissions**

Year	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
	Metric Tons per Year			
2019	391.82	0.12	0.00	394.77
2020	720.24	0.14	0.00	723.84
2021	1,053.11	0.13	0.00	1,056.47
2022	1,061.56	0.13	0.00	1,064.88
2023	1,071.57	0.13	0.00	1,074.81
2024	634.28	0.08	0.00	636.19
<b>Total</b>	<b>4,932.58</b>	<b>0.73</b>	<b>0.00</b>	<b>4,950.96</b>

**Notes:** CO<sub>2</sub> = carbon dioxide; CH<sub>4</sub> = methane; N<sub>2</sub>O = nitrous oxide; CO<sub>2</sub>e = carbon dioxide equivalent  
See Appendix H for complete results.

As shown in Table 4.8-4, estimated total proposed project-generated construction GHG emissions are approximately 4,951 MT CO<sub>2</sub>e over 5 years (2019 through 2024). The amortized construction GHG emissions over the lifetime of the proposed project (30 years) would be approximately 165 MT CO<sub>2</sub>e per year.

Because there is no separate GHG threshold for construction, the evaluation of significance is discussed in the operational emissions analysis below.

**Operational GHG Emissions**

The proposed project would generate operational GHG emissions from area sources (landscape maintenance equipment), energy sources (natural gas and electricity consumption), mobile sources (vehicle trips), water supply and wastewater treatment, and solid waste. In regards to energy use, the proposed project energy demand as reflected in CalEEMod, shows that the proposed project would offset the residential component’s energy consumption through the implementation of rooftop PV systems on all residential buildings. According to the PV Loads Report, it was estimated that a total of 1.81 megawatts (MW) of PV panels would be required to offset electrical energy consumption from residential uses (VCA Green 2018). Furthermore, PV s-systems would be installed on non-residential buildings in order to offset the proposed project’s electrical energy consumption. A total of approximately 0.44 MW of panels would be installed to offset the energy use from non-residential uses. Other project features which would help reduce GHG emissions include electric-vehicle charging station within residential units. Table 4.8-5 presents the proposed project’s operational GHG emissions, which includes energy offsets from on-site PV system production on residential and non-residential buildings. Refer to Section 4.3 of Appendix H for a complete operational assumption methodology.

**Table 4.8-5  
Estimated Annual Operational GHG Emissions (2025)**

Emissions Source	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
	<i>Metric Tons per Year</i>			
Area	496.79	0.02	0.01	499.89
Energy	386.26	0.01	0.02	389.70
Mobile	8,933.89	0.43	0.00	8,944.73
Solid Waste	33.08	1.95	0.00	81.95
Water and Wastewater	319.09	1.62	0.04	372.04
			<b>Total</b>	<b>10,288.31</b>

**Source:** See Appendix H.

**Notes:** CO<sub>2</sub> = carbon dioxide; CH<sub>4</sub> = methane; N<sub>2</sub>O = nitrous oxide; CO<sub>2</sub>e = carbon dioxide equivalent

Emissions were modeled with CalEEMod and are based on the “Mitigated” CalEEMod outputs including a 75% waste diversion pursuant to AB 341 even though compliance with the standard would not be considered actual mitigation. Additionally, a project setting of Suburban Center and Increase Diversity were selected in the model to account for a 5% mixed use reduction as provided in the traffic analysis. Numbers may not add exactly due to rounding. Energy emissions assumes that the proposed project’s residential and nonresidential buildings will be constructed with installation of PV panels in order to offset the electrical energy consumption.

This GHG analysis also estimates the net loss of sequestered carbon that would result from removal of vegetation. The loss of sequestered carbon resulting from the removal of vegetation on site is estimated based on the carbon sequestration rate for the vegetation type and the approximate acreages. Table 4.8-6 presents the estimated one-time carbon-stock change resulting from proposed project. Refer to Section 4.4 of Appendix H for a complete methodology regarding loss of sequestered carbon.

**Table 4.8-6  
Planted Trees – Estimated Loss of Sequestered Carbon**

Vegetation Land Use Category	Total Acres	Total Acres Impacted	Biogenic CO <sub>2</sub> Sequestered Factor (MT CO <sub>2</sub> /Acre)	Sequestered CO <sub>2</sub> (MT CO <sub>2</sub> )
Trees	0.69	0.69	111	76.59
Scrub	0.47	0.10	14.3	1.43
Cropland	169.57	156.56	6.2	971.04
<b>Total</b>				<b>1,049.06</b>

Source: CAPCOA 2017.

Notes: MT CO<sub>2</sub> = metric tons carbon dioxide  
See Appendix H for calculations and references.

As presented in Table 4.8-6, the loss in sequestered carbon resulting from the removal of vegetation would be approximately 1,049 MT CO<sub>2</sub>. To interpret an annual sequestration the total sequestered CO<sub>2</sub> was divided by the proposed project life time of 30 years, resulting in 35 MT CO<sub>2</sub> annually.

This GHG analysis also estimates the gain of sequestered carbon that would result from planting and growth of trees on site. The gain of sequestered carbon resulting from planting and growth of approximately 1,472 miscellaneous trees on site is estimated based on the carbon sequestration rate for the tree species, the number of new trees, and the growing period (Appendix H). Table 4.8-7 presents the estimated one-time carbon-stock change resulting from proposed planting of new trees. Refer to Section 4.4 of Appendix H for a complete methodology regarding gain of sequestered carbon.

**Table 4.8-7  
Planted Trees – Estimated Gain of Sequestered Carbon**

Proposed Project Tree Category/Species	Tree Category	Growing Period (year)	Number of Trees (trees)	Tree CO <sub>2</sub> Sequestered Factor (MT CO <sub>2</sub> /Tree/Year)	Gain of Sequestered CO <sub>2</sub> (MT CO <sub>2</sub> )
Unknown	Miscellaneous	20	1,472	0.0354	1,042.18
<b>Total</b>					<b>1,042.18</b>

Source: CAPCOA 2017.

Notes: MT CO<sub>2</sub> = metric tons carbon dioxide.  
See Appendix H for calculations and references.

As presented in Table 4.8-7, the gain in sequestered carbon resulting from planting 1,472 trees would be approximately 1,042 MT CO<sub>2</sub>. To interpret an annual sequestration the total sequestered CO<sub>2</sub> was divided by the proposed project life time of 30 years, resulting in 35 MT CO<sub>2</sub> annually.

As shown in Table 4.8-8, the total proposed project emissions during operation were estimated to be approximately 10,488 MT CO<sub>2</sub>e per year, which includes amortized construction emissions of 165 MT CO<sub>2</sub>e per year and the loss of carbon from vegetation removal of 35 MT CO<sub>2</sub>e per year. Furthermore, the planting of trees would reduce the amount of operational emissions by an estimated 35 MT CO<sub>2</sub>e per year resulting in an overall operational GHG impact of 10,453 MT CO<sub>2</sub>e per year. The proposed project’s service population, defined as the number of residents plus the number of jobs supported by the proposed project, is 2,161 people. The proposed project’s service population is based on SANDAG’s Series 13 Regional Growth Forecast, which estimates an average household size of 2.86 persons per dwelling unit and 13.8 employees per developed acre by 2025. Based on a service population of 2,161 people, the proposed project would result in GHG emissions of approximately 4.8 MT CO<sub>2</sub>e/SP/yr. Thus, the proposed project’s estimated GHG emissions would exceed the 2025 efficiency significance threshold of 3.5 MT CO<sub>2</sub>e/SP/yr and the proposed project’s GHG emissions prior to mitigation would be potentially significant. Mitigation Measure (MM-) GHG-1 would require on-site features and measures to reduce GHG emissions. These measures are consistent with recommendations by SDAPCD and CAPCOA. Further, as a result of MM-GHG-2 and MM-GHG-3, the applicant would be required to purchase a total of 4,951 MT CO<sub>2</sub>e of carbon offset credits to offset construction GHG emissions and a total of 308,640 MT CO<sub>2</sub>e of carbon offset credits to offset operational GHG emissions. The use of offsets to mitigate GHG emissions is expressly recognized in CEQA Guidelines Section 15126.4(c)(3)-(c)(4), and would reduce proposed project impacts associated with GHG emissions to a level that is less than significant.

**Table 4.8-8  
Estimated Annual Net GHG Emissions (2025)**

<b>Emission Source</b>	<b>CO<sub>2</sub>e Metric Tons per Year</b>
Construction Emissions (Amortized Over 30 Years)	165
Annual Operational Emissions (Includes reductions from PV systems and water efficient infrastructure)	10,288
Loss of Carbon from Vegetation Removal (Amortized Over 30 Years)	35
Annual Gain from Sequestered Carbon (Amortized Over 30 Years)	(35)
<b>Total Annual Emissions</b>	<b>10,453</b>
<b>Project Service Population</b>	<b>2,161</b>
<b>Service Person/Per Capita GHG Efficiency</b>	<b>4.8<sup>3</sup></b>

**Notes:** CO<sub>2</sub>e = carbon dioxide equivalent  
Numbers in parentheses represent negative numbers.

<sup>3</sup> 10,453 MT CO<sub>2</sub>e ÷ 2,161 service population = 4.8 MT CO<sub>2</sub>e/SP/yr.

**Table 4.8-9  
Estimated Annual GHG Emissions With Mitigation Measures (2025)**

Emission Source	CO <sub>2</sub> e Metric Tons per Year
Construction Emissions (one time)	4,951
Reductions from MM-GHG-3	(4,951)
Annual Operational Emissions (Includes reductions from PV systems and water efficient infrastructure per MM-GHG-1)	10,288
Loss of Carbon from Vegetation Removal (Amortized Over 30 Years)	35
Annual Gain from Sequestered Carbon (Amortized Over 30 Years)	(35)
Project Life Operational Emissions (30 years)	308,640
Reductions from MM-GHG-2	(308,640)
<b>Net Emissions After Mitigation</b>	<b>0</b>

Notes: CO<sub>2</sub>e = carbon dioxide equivalent  
Numbers in parentheses represent negative numbers.

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

**Consistency with SANDAG’S San Diego Forward: The Regional Plan**

Regarding consistency with the Regional Plan, the proposed project would be developed to support the policy objectives of the RTP and SB 375. For example, the proposed project would develop a mixed use community that would include residential uses, agriculture supported activities, and commercial amenities. Additionally, on-site generation of energy for electricity, which will offset a portion of residential electricity consumption and power community facilities, would support environmental stewardship in everyday operations of the proposed project.

Table 4.8-10 illustrates the proposed project’s consistency with applicable goals and policies of the Regional Plan (SANDAG 2015).

**Table 4.8-10  
Regional Plan Consistency Analysis**

Category	Policy Objective or Strategy	Consistency Analysis
<i>Regional Plan – Policy Objectives</i>		
Mobility Choices	Provide safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play.	<i>Not applicable.</i> The proposed project would not impair the ability of SANDAG to provide additional transportation choices within the region.
Mobility Choices	Take advantage of new technologies to make the transportation system more efficient and environmentally friendly.	<i>Not applicable.</i> The proposed project would not impair the ability of SANDAG to implement new technologies within the transportation system within the region.

**Table 4.8-10  
Regional Plan Consistency Analysis**

<b>Category</b>	<b>Policy Objective or Strategy</b>	<b>Consistency Analysis</b>
Habitat and Open Space Preservation	Focus growth in areas that are already urbanized, allowing the region to set aside and restore more open space in our less developed areas.	<i>Consistent.</i> The proposed project would not impact any open space designated land. While the project site is not currently urbanized, the areas to the northwest, west, and south (immediately across the San Luis Rey River) have been heavily developed. The proposed project would develop existing agriculture land with a community farm, which would promote sustainability, provide education and opportunities to capture elements of local agriculture and would promote agritourism.
Habitat and Open Space Preservation	Protect and restore our region’s urban canyons, coastlines, beaches, and water resources.	<i>Consistent.</i> The proposed project would be located on an already utilized site that has been used for agriculture. The proposed project would not impact any open space.
Regional Economic Prosperity	Invest in transportation projects that provide access for all communities to a variety of jobs with competitive wages.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to invest in transportation projects available to all members of the Community.
Regional Economic Prosperity	Build infrastructure that makes the movement of freight in our community more efficient and environmentally friendly.	<i>Not Applicable.</i> The proposed project does not propose regional freight movement, nor would it impair SANDAG’s ability to preserve and expand options for regional freight movement.
Partnerships/Collaboration	Collaborate with Native American tribes, Mexico, military bases, neighboring counties, infrastructure providers, the private sector, and local communities to design a transportation system that connects to the mega-region and national network, and works for everyone and fosters a high quality of life for all.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico, neighboring counties, and tribal nations. Furthermore, the proposed project has coordinated with Native American tribes and neighboring jurisdictions.
Partnerships/Collaboration	As we plan for our region, recognize the vital economic, environmental, cultural, and community linkages between the San Diego region and Baja California.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico.
Healthy and Complete Communities	Create great places for everyone to live, work, and play.	<i>Consistent.</i> The proposed project’s internal circulation features would provide residents the opportunity to access recreational and commercial uses via multiple modes of transportation. The proposed project would encourage non-vehicular modes of transportation through the inclusion of an extensive walking and bicycling network.
Healthy and Complete Communities	Connect communities through a variety of transportation choices that promote healthy lifestyles, including walking and biking.	<i>Not Applicable.</i> The proposed project would not impair the ability for SANDAG to create additional transportation opportunities to promote a healthy lifestyle.

**Table 4.8-10  
Regional Plan Consistency Analysis**

<b>Category</b>	<b>Policy Objective or Strategy</b>	<b>Consistency Analysis</b>
Environmental Stewardship	Make transportation investments that result in cleaner air, environmental protection, conservation, efficiency, and sustainable living.	<i>Consistent.</i> The proposed project would promote walkability and alternative transportation by creating neighborhoods that are linked by a series of interconnected multi-use trails, sidewalks, and bicycle facilities that will connect residents to existing transit and the river trail system. Thus the proposed project would help reduce the local GHG and air emissions.
Environmental Stewardship	Support energy programs that promote sustainability.	<i>Consistent.</i> The proposed project would include on-site renewable energy production through a solar photovoltaic rooftop system for residential units, which would offset a portion of their electricity consumption.
<i>Sustainable Communities Strategy (SCS) – Strategies</i>		
Strategy #1	Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit.	<i>Consistent.</i> The proposed project would be located near major urban and employment centers. The close proximity of this transit hub, plus extensive pedestrian and bicycle connections, and ridesharing, carpooling, and car sharing would provide residents and employees within the project site with simple and efficient transportation options. NCTD currently does not provide transit service to the project site and the areas to the east along N. River Road. NCTD indicated that future service may be expanded to the area (Appendix A). The proposed project includes east/west bus stop infrastructure along N. River Road within the project site to prepare for any future contemplated service by NCTD.
Strategy #2	Protect the environment and help ensure the success of smart growth land use policies by preserving sensitive habitat, open space, cultural resources, and farmland.	<i>Consistent.</i> The proposed project would avoid or fully mitigate for any sensitive habitat or significant cultural resources on- and off-site. The project site would be located entirely on land zoned, designated for, and actively used as agriculture. While the project would result in the loss of existing farmland, it would fully mitigate for this loss through purchase of mitigation credits for agricultural easements (refer to Section 4.2, Agriculture), and would include approximately 31.6 acres of agricultural land.
Strategy #3	Invest in a transportation network that gives people transportation choices and reduces GHG emissions.	<i>Not Applicable.</i> The proposed project would not impair SANDAG's ability to invest in transportation network choices that reduce GHG emissions.
Strategy #4	Address the housing needs of all economic segments of the population.	<i>Not Applicable.</i> The proposed project would develop 724 residential units, which includes single family and medium residential.

**Table 4.8-10  
Regional Plan Consistency Analysis**

Category	Policy Objective or Strategy	Consistency Analysis
Strategy #5	Implement the Regional Plan through incentives and collaboration.	<i>Not Applicable.</i> The proposed project would not impair the ability of SANDAG to implement the RTP through incentives and collaborations.

Source: SANDAG 2015.

As shown in Table 4.8-10, the proposed project is consistent with applicable policy objectives and strategies from the Regional Plan.

**Consistency Analysis with City of Oceanside General Plan**

The proposed project also would be consistent with the goals set forth in the City’s Environmental Resource Management Element, Land Use Element, and Circulation Element of the City’s General Plan that are designed to reduce the emissions of GHGs; reduce energy use in buildings and infrastructure; and promote the use of renewable energy sources, conservation, and other methods of efficiency. Table 4.8-11 outlines the proposed project’s consistency with applicable General Plan goals.

**Table 4.8-11  
City of Oceanside General Plan – Project Consistency Analysis**

Goal	Consistency Analysis
<i>Environmental Resource Management Element<sup>a</sup></i>	
Air Quality. Cooperate with County, State, and federal agencies in continuing programs of air quality improvement.	<i>Consistent.</i> The proposed project would not impair the City’s ability to work with the County, State, and other local agencies.
<i>Land Use Element<sup>b</sup></i>	
Air Quality. The City shall cooperate with the San Diego County Air Pollution Control Board, and participate in the Regional Air Control Strategy (RAQS).	<i>Consistent.</i> The proposed project would not impair the City’s ability to work with the SDAPCD Board or RAQS.
Bicycle Facilities. Policy A: Development shall provide Class II Bikeways (Bike Lanes) on all secondary, major, and prime arterials.	<i>Consistent.</i> The implementation of road improvements by the proposed project would create new linkages to the City’s existing bicycle and pedestrian network and implements recommendations identified in the City’s 2008 Bicycle Master Plan. The proposed project would improve the current street design by continuing the Class II bike lanes for N. River Road and creating a multipurpose Class III trail along N. River Road and the backbone streets. This trail will connect to internal off street connections linking pedestrian and bicycle access into the transportation network.

**Table 4.8-11**  
**City of Oceanside General Plan – Project Consistency Analysis**

Goal	Consistency Analysis
<p>Bicycle Facilities. Policy D: The use of land shall integrate the Bicycle Circulation System with auto, pedestrian, and transit systems:</p> <ol style="list-style-type: none"> <li>1. Development shall provide short-term bicycle parking and long-term bicycle storage facilities such as bicycle racks, pedestal posts, and rental bicycle lockers.</li> <li>2. Development shall provide safe and convenient bicycle access to high activity land uses, such as schools, parks, shopping, employment, and entertainment centers.</li> </ol>	<p><i>Consistent.</i> The proposed project would include Class II and Class III bicycle lanes and Class I trails along private roads and N. River Road within the project site. A multi-use trail system would also be developed throughout and around the perimeter of the community that totals over 3 miles. Additionally, smart stops will be integrated into the street network to allow for the safe drop-off and pick-up of bicycle sharing passengers. Bicycle lane and pedestrian improvements would occur on N. River Road to provide for connectivity to the San Luis Rey Transit Center.</p>
<p>Pedestrian. Policy A: The construction of five (5) foot wide sidewalks adjacent to the curb shall be required in all new developments and street improvements.</p>	<p><i>Consistent.</i> The implementation of road improvements by the proposed project would create new linkages to the City's existing pedestrian network and implements recommendations identified in the City's 2008 Bicycle Master Plan. Additionally, a multi-use trail system is planned throughout and around the perimeter of the community that totals over 3 miles.</p>
<p>Transit System. Policy A: The City shall coordinate and encourage the existing bus system to serve newly developed areas.</p>	<p><i>Consistent.</i> NCTD operates a transit center at Vandegrift Boulevard and N. River Road located approximately 1 mile from the Village Core. The close proximity of this transit hub, plus extensive pedestrian and bicycle connections, and ridesharing, carpooling, and car sharing would provide residents and employees within the project site with simple and efficient transportation options. NCTD currently does not provide transit service to the project site and the areas to the east along N. River Road. NCTD indicated that future service may be expanded to the area (Appendix A). The proposed project includes east/west bus stop infrastructure along N. River Road within the project site to prepare for any future contemplated service by NCTD.</p>
<p>Energy. Policy A. The City shall encourage the design, installation, and use of passive and active solar collection systems.</p>	<p><i>Consistent.</i> All residential units would include the installation of photovoltaic panels to offset a portion of their electrical consumption. Additionally, photovoltaic panels will power all streetlights on community facilities (e.g., pool areas, recreation centers) to offset electrical use.</p>
<p>Energy. Policy B. The City shall encourage the use of energy efficient design, structures, materials, and equipment in all land developments or uses.</p>	<p><i>Consistent.</i> The proposed project would incorporate integrated energy efficient measures such as daylighting, passive solar design, high efficiency HVAC equipment, and natural ventilation. Additionally, the proposed project would look to exceed the City's minimum requirement of the 2016 California Green Building Standards (CalGreen) Tier 1 equipment.</p>
<i>Circulation Element<sup>c</sup></i>	
<p>Policy 2.5. The City will strive to incorporate complete streets throughout Oceanside.</p>	<p><i>Not applicable.</i> The proposed project would not impair the City's ability to incorporate complete streets throughout the City. Additionally, the project would implement pedestrian, bicycle, and other improvements to N. River Road, aiding the City in achieving this policy.</p>
<p>Pedestrian Facilities. Support walking as a primary means of transportation.</p>	<p><i>Not applicable.</i> The proposed project would not impair the City's ability to improve the walkability throughout the City.</p>
<p>Intelligent Transportation System Technologies. Improve air quality and reduce greenhouse gas emissions through traffic signal optimization and the use of advanced signal control technologies.</p>	<p><i>Not applicable.</i> The proposed project would not impair the City's ability to optimize traffic signals or use advanced signal control technologies.</p>

**Table 4.8-11**  
**City of Oceanside General Plan – Project Consistency Analysis**

Goal	Consistency Analysis
Transportation Demand Management. The City shall look for opportunities to incorporate TDM programs into their Energy Roadmap that contributes to state and regional goals for saving energy and reducing greenhouse gas emissions.	<i>Not applicable.</i> The proposed project would not impair the City's ability to incorporate TDM strategies into their Energy Roadmap. The close proximity of this transit hub, plus extensive pedestrian and bicycle connections, and ridesharing, carpooling, and car sharing would provide residents and employees within the project site with simple and efficient transportation options.

**Sources:**

- <sup>a</sup> City of Oceanside 1975.
- <sup>b</sup> City of Oceanside 1986.
- <sup>c</sup> City of Oceanside 2002.

As shown in Table 4.8-11, the proposed project would be consistent with applicable and goals and policies of the City's General Plan to the extent feasible.

### Consistency with SB 32 and EO S-3-05

To begin, CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the First Update to the Climate Change Scoping Plan that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014, p. ES2). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, the *First Update to the Climate Change Scoping Plan* states the following (CARB 2014, p. 34):

This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80% below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

In other words, CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, EO B-30-15, and EO S-3-05. This is confirmed in the Second Update, which states the following (CARB 2017b, p. 7):

The proposed Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while also identifying new, technologically feasibility and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health,

including in disadvantaged communities. The proposed Plan is developed to be consistent with requirements set forth in AB 32, SB 32, and AB 197.

The proposed project may interfere with implementation of any of the previously described GHG reduction goals for 2030 or 2050 because the proposed project would result in an exceedance of the calculated efficiency metric. Therefore, the proposed project would not be consistent with SB 32 and EO S-3-05, and GHG emissions could be a potentially significant impact. Implementation of MM-GHG-1 would reduce GHG emissions associated with the proposed project operations through on-site features and measures to reduce GHG emissions. With implementation of MM-GHG-2 and MM-GHG-3, the proposed project would reduce impacts from GHG emissions through the purchase of carbon offsets in order to achieve carbon neutrality (i.e., a net zero emissions level). Therefore, the proposed project would not interfere with implementation of any of the GHG reduction goals for 2030 or 2050 with implementation of mitigation. In addition, since the specific path to compliance for future long-term goals will likely require development of technology or other changes that are not currently known or available, specific additional mitigation measures for the proposed project, which could further reduce operational GHG emissions would be speculative and cannot be identified at this time. Therefore, the proposed project would be consistent with SB 32 and EO S-3-05 with implementation of MM-GHG-1 through MM-GHG-3 and project impacts on GHG emissions would be less than significant with mitigation.

#### **4.8.5 Mitigation Measures**

The following mitigation measures would reduce potentially significant impacts related to greenhouse gas emissions to a level below significance.

**MM-GHG-1** Prior to the issuance of the first building permit, the following GHG emission reduction measures shall be implemented:

All residential buildings shall:

- Meet or exceed CALGreen Tier 1 requirements in place at the time of Building Permit issuance.
- Prior to the issuance of residential building permits, the applicant or its designee shall submit building plans illustrating compliance with the applicable design standards defined by the approved building code at the time of permit application.
- Be pre-plumbed and structurally engineered for the installation of a complete solar energy system. Include a tankless water heating system, a whole house ceiling fan, and “Energy Star” appliances (stoves, dishwashers, and any other appliances typically included within the initial installation by the builder).

- Include an energy efficient air conditioning unit(s) that exceeds the seasonal energy efficiency ratio (SEER) by a minimum of two points at the time of building permit issuance.
- Include programmable thermostat timers.
- Include exterior outlets on all residential buildings to allow the use of electrically powered landscape equipment.
- All private residential garages shall include one electric vehicle charging station.
- Prior to the issuance of a Building Permit, the floor plans and/or exterior elevations submitted in conjunction with the Building Permit application for each residence shall illustrate the exclusive utilization of low flow water fixtures such as low flow toilets, faucets, and showers.
- Prior to approval of Improvement Plans, the applicant shall verify the exclusive use of energy efficient lighting that meets or exceeds CalGreen Tier 1 requirements for all street, parking, and area lighting associated with the proposed project, including all on-site and off-site lighting.

All non-residential buildings shall:

- Be pre-plumbed and structurally engineered for the installation of a complete solar energy system.
- Prior to the issuance of non-residential building permits, the applicant or its designee shall submit building plans illustrating that the proposed project's non-residential land uses shall achieve an 8% greater building energy efficiency than required by the current State energy efficiency standards in Title 24, Part 6 of the California Code of Regulations.
- Use "Energy Star" rated (or greater) roofing materials.
- Prior to approval of Improvement Plans, the applicant shall verify the exclusive use of energy efficient lighting that meets or exceeds CalGreen Tier 1 requirements for all street, parking, and area lighting associated with the proposed project, including all on-site and off-site lighting. Prior to the issuance of a Building Permit, the floor plans and/or exterior elevations submitted in conjunction with the Building Permit application shall show that the proposed project includes a complete solar water heating system.
- Include an energy efficient heating system and an air conditioning system that exceeds the SEER ratio by a minimum of two points at the time of building permit issuance.

- Only use low flow water fixtures such as low flow toilets, faucets, and showers.
- Only use programmable thermostat timers.
- Prior to approval of Improvement Plans, the applicant shall only show energy efficient lighting for all street, parking, and area lighting associated with the proposed project, including all on-site and off-site lighting.
- Include pedestrian-friendly paths and cross walks in all parking lots.
- In all on-site, non-residential parking areas with ten or more spaces, electric vehicle charging stations shall be installed in a minimum of 12 percent of the parking spaces.
- Prior to the issuance of building permits, the Project applicant or its designee shall submit building plans illustrating that all outdoor pavement, including all parking lots and walkways, reflective coatings (albedo = 0.30 or better) or concrete.
- Maximize the amount of drought tolerant landscaping used. Turf should be limited to parks or other active use and/or high visibility areas. Low groundcover and native grasses shall be used as an alternative to turf. Any turf used shall be warm-season turf or shall have a plant species factor of 0.6 or lower.
- Ensure recycling of construction debris and waste through administration by an on-site recycling coordinator and presence of recycling/separation areas.

**MM-GHG-2** As to operational greenhouse gas (GHG) emissions, prior to the City of Oceanside’s (City’s) issuance of the first building permits, the applicant or its designee shall purchase and retire carbon offsets in a quantity sufficient to offset 100% of the proposed project-generated GHG emissions in order to achieve carbon neutrality (i.e., a net zero emissions level), for a 30-year period, consistent with the performance standards and requirements set forth below.

**First**, “carbon offset” shall mean an instrument issued by any of the following: (i) the Climate Action Reserve, the American Carbon Registry, and the Verra (formerly, Verified Carbon Standard); (ii) any registry approved by the California Air Resources Board (CARB) to act as a registry under the state’s cap-and-trade program; or (iii) any other reputable registry or entity that issues carbon offsets. Prior to use of option (iii), it shall be demonstrated that the other reputable registry or entity follows accounting, quantification and monitoring protocols, as well as eligibility and procedural performance standards, that are comparable to those used by the registries identified in option (i). For additional information about the protocols and standards referenced in this paragraph, please see the State-approved “Newhall Ranch Greenhouse Gas Reduction Plan,” which is included in Appendix H1 of the EIR.

Section IX of the “Newhall Ranch Greenhouse Gas Reduction Plan” outlines the protocols and standards that must be followed in order for a registry and the offsets it issues to qualify under this measure.

**Second**, consistent with CEQA Guidelines Section 15126.4(c), any carbon offset used to reduce the proposed project’s GHG emissions shall be a carbon offset that represents the past reduction or sequestration of one metric ton of carbon dioxide equivalent that is “not otherwise required.”

**Third**, “Applicant” shall mean the NRF Project Owner LLC or its designee.

**Fourth**, regarding operational emissions, prior to the City’s issuance of the first building permit, the applicant shall provide evidence to the satisfaction of the Development Services Director that the applicant has purchased and retired carbon offsets in a quantity sufficient to offset 100% of the proposed project’s GHG emissions for a 30-year period. The “project life” is 30 years. This methodology is consistent with the 30-year project life time frame used by the South Coast Air Quality Management District’s GHG guidance, as well as the methodological parameters used by the California Air Resources Board when reviewing AB 900 projects. The emissions reduction obligation associated the building permit shall be calculated by reference to the certified EIR’s Greenhouse Gas Emissions Technical Report (Appendix H), which determined total operational emissions as equaling 10,288 metric tons of carbon dioxide equivalent (MT CO<sub>2e</sub>) annually, which equates to 308,640 MT CO<sub>2e</sub> (10,288 MT CO<sub>2e</sub> x 30 years). In making such a determination, the Development Services Director shall require the Project applicant or its designee to provide an attestation or similar documentation from the selected registry(ies) that a sufficient quantity of carbon offsets meeting the standards set forth in this measure have been purchased and retired, thereby demonstrating that the necessary emission reductions are realized.

**Fifth**, the purchased carbon offsets used to reduce operational GHG emissions shall achieve real, permanent, quantifiable, verifiable, and enforceable reductions.

**Sixth**, the amount of carbon offsets required shall be based on the operational GHG emissions as identified in the approved GHG emissions report.

**Seventh**, each implementing Site Plan shall include a tabulation that identifies the overall carbon offsets required to mitigate the entire proposed project’s GHG emissions, the amount of carbon offsets purchased, and the locational attributes of the carbon offsets in order to allow Development Services Director to track and monitor the implementation of the geographic priority provision.

**Eighth**, all carbon offsets required to reduce the proposed project’s operational emissions shall be associated with reduction activities that are geographically prioritized according to the following locational attributes: (1) project design features/on-site reduction measures, (2) off site within the City, (3) off site within the County of San Diego, (4) off site within the state of California, (5) off site within the United States, and (6) off site internationally. As listed, geographic priorities would focus first on local reduction options (including projects and programs that would reduce GHG emissions) to ensure that reduction efforts achieved locally would provide cross-over, co-benefits related to other environmental resource areas, even though the co-benefits are not needed to mitigate impacts to these other environmental resource areas. The applicant or its designee shall first pursue carbon offsets locally within the City consistent with this geographic priority strategy.

The project applicant or its designee shall submit proof to the City that offsets are unavailable in a higher priority category before seeking offsets from the next lower priority category. The Development Services Director shall issue a written determination that offsets are unavailable in a higher priority geographic category before allowing the Project applicant or its designee to use offsets from the next lower priority category. In considering whether offsets are unavailable, the Development Services Director shall consider the feasibility factors as defined in CEQA Guidelines Section 15364 and information available at the time the first building permit request is submitted, including but not limited to:

- The availability of in-State emission reduction opportunities;
- The geographic attributes of carbon offsets that are listed for purchase and retirement;
- The temporal attributes of carbon offsets that are listed for purchase and retirement;
- The pricing attributes of carbon offsets that are listed for purchase and retirement; and/or,
- Any other information deemed relevant to the evaluation, such as periodicals and reports addressing the availability of carbon offsets.

**MM-GHG-3** As to construction greenhouse gas (GHG) emissions, prior to the City’s issuance of the grading permit, the proposed project applicant shall purchase and retire carbon offsets in a quantity sufficient to offset 100% of the proposed project’s construction emissions (including sequestration loss from vegetation removal) associated with each such grading permit, consistent with the performance standards and requirements set forth below.

**First**, “carbon offset” shall mean an instrument issued by any of the following: (i) the Climate Action Reserve, the American Carbon Registry, and the Verra (formerly, Verified Carbon Standard), (ii) any registry approved by the California Air Resources Board (CARB) to act as a registry under the state’s cap-and-trade program, or (iii) any other reputable registry or entity that issues carbon offsets. Prior to use of option (iii), it shall be demonstrated that the other reputable registry or entity follows accounting, quantification and monitoring protocols, as well as eligibility and procedural performance standards, that are comparable to those used by the registries identified in option (i). For additional information about the protocols and standards referenced in this paragraph, please see the State-approved “Newhall Ranch Greenhouse Gas Reduction Plan,” which is included in Appendix H1 of the EIR. Section IX of the “Newhall Ranch Greenhouse Gas Reduction Plan” outlines the protocols and standards that must be followed in order for a registry and the offsets it issues to qualify under this measure.

**Second**, consistent with CEQA Guidelines Section 15126.4(c), any carbon offset used to reduce the proposed project’s GHG emissions shall be a carbon offset that represents the past reduction or sequestration of one metric ton of carbon dioxide equivalent that is “not otherwise required.”

**Third**, “Project applicant” shall mean NRF Project Owner LLC or its designee.

**Fourth**, as to construction GHG emissions, prior to the City’s issuance of the Proposed Project’s grading permit, the proposed project applicant shall provide evidence to the satisfaction of the Development Services Director that the proposed project applicant has purchased and retired carbon offsets in a quantity sufficient to offset 100% of the construction GHG emissions generated by the proposed project, as associated with the grading permit, which total 4,951 MT CO<sub>2</sub>e.

**Fifth**, the purchased carbon offsets used to reduce construction GHG emissions shall achieve real, permanent, quantifiable, verifiable, and enforceable reductions.

**Sixth**, all carbon offsets required to reduce the proposed project’s operational emissions shall be associated with reduction activities that are geographically prioritized according to the following locational attributes: 1) project design features/on-site reduction measures; 2) off-site within the City of Oceanside; 3) off-site within the County of San Diego; 4) off-site within the State of California; 5) off-site within the United States; and 6) off-site internationally. As listed, geographic priorities would focus first on local reduction options (including projects and programs that would reduce GHG emissions) to ensure that reduction efforts

achieved locally would provide cross-over, co-benefits related to other environmental resource areas, even though the co-benefits are not needed to mitigate impacts to these other environmental resource areas. The proposed project applicant or its designee shall first pursue carbon offsets locally within the City of Oceanside consistent with this geographic priority strategy.

The project applicant or its designee shall submit proof to the City that offsets are unavailable in a higher priority category before seeking offsets from the next lower priority category. The Development Services Director shall issue a written determination that offsets are unavailable in a higher priority geographic category before allowing the Project applicant or its designee to use offsets from the next lower priority category. In considering whether offsets are unavailable, the Development Services Director shall consider the feasibility factors as defined in CEQA Guidelines Section 15364 and information available at the time the grading permit request is submitted, including but not limited to:

- The availability of in-State emission reduction opportunities;
- The geographic attributes of carbon offsets that are listed for purchase and retirement;
- The temporal attributes of carbon offsets that are listed for purchase and retirement;
- The pricing attributes of carbon offsets that are listed for purchase and retirement; and/or,
- Any other information deemed relevant to the evaluation, such as periodicals and reports addressing the availability of carbon offsets.

#### **4.8.6 Level of Significance After Mitigation**

With incorporation of MM-GHG-1 through MM-GHG-3, potentially significant impacts related to greenhouse gas emissions would be reduced to a level below significance.

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## 4.9 HAZARDS AND HAZARDOUS MATERIALS

This section describes the existing hazards and hazardous materials setting of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures as necessary related to implementation of the North River Farms Planned Development (PD) Plan (proposed project). The following analysis is based on the following:

- Phase I Environmental Site Assessment (ESA) prepared for the proposed project by Geocon Inc. in July 2016 (Appendix I)
- The North River Farms Fire Protection Plan (FPP) prepared by Dudek in March 2018 (Appendix J1)
- Conceptual Wildland Fire Evacuation Plan for the North River Farms Community (Evacuation Plan) prepared by Dudek in June 2018 (Appendix J2)

### 4.9.1 Existing Conditions

#### Historic Uses

Historical uses of the project site were observed through aerial photographs (see Appendix D of the Phase I ESA [Appendix I]). The following summarizes the series of photographs observed:

- **1946 aerial:** The project site appears to have been used as agricultural land. An improved road traverses the site from east to west. Several structures and a network of unimproved roads were on the southern portion of the site. Several structures and an orchard were on the northern portion of the site. The majority of the site north of the improved road appeared to be used for dry farming.
- **1953 aerial:** The network of unimproved roads on the southern portion of the site was absent. The site appears similar to that observed in the 1946 aerial photograph.
- **1963 aerial:** The northern portion of the site appears to have been used as an orchard. Otherwise, the site appears similar to that observed in the 1953 aerial photograph.
- **1974 aerial:** The site appears similar to that observed in the 1963 aerial photograph.
- **1980 aerial:** The majority of the northern and southern portions of the site appear to be developed as multiple crop plots. An area in the east-central portion of the site appears to be used as an equipment storage yard.
- **1990 aerial:** The river southeast of the site appears to be flooded. Otherwise, the site appears similar to the 1980 aerial photograph.

- **1994 aerial:** The site appears to be developed with multiple crop plots with temporary greenhouses and associated structures. A structure is located in the equipment storage area on the western portion of the site.
- **2005 aerial:** Additions were made to the structure in the equipment storage yard. Otherwise, the site appears similar to that observed in the 1994 photograph.
- **2009 aerial:** The site appears similar to that observed in the 2005 aerial photograph.
- **2010 aerial:** The site appears similar to that observed in the 2009 aerial photograph.
- **2012 aerial:** The site appears similar to that observed in the 2010 aerial photograph.

### **Environmental Database Records Search**

As part of the Phase I ESA, a database search report was obtained from Environmental Data Resources Inc. (EDR). The report documents findings of various federal, state, and local regulatory database searches regarding properties with known or suspected releases of hazardous materials, chemical handlers, and/or polluters. A list and a description of the databases searched are included in Appendix I. Further discussion of the database search can be found in Section 4.9.4.

### **Previous Environmental Documentation**

Geocon Inc. conducted previous ESAs on the project site. In October 2014, Geocon Inc. performed a Phase I ESA of the project site, which identified recognized environmental conditions (RECs) related to gasoline, diesel, and oil aboveground storage tanks (ASTs), a potential release of ethylene glycol, potential impact of metals to soil within an outdoor welding area, and the potential for residual pesticides in soil from historical and current agricultural use, as shown on Figure 4.9-1.

To further evaluate the identified RECs, a limited Phase II ESA was performed in October 2014, which involved soil sampling and analysis. Geocon Inc. conducting limited soil sampling that included 60 soil borings across the site and collecting discreet soil samples at depths of 0.5 and 2 feet for pesticide and arsenic analysis. Nine additional borings were conducted to further evaluate pesticide impacts at the reported location of a former chemical storage building. Furthermore, six borings in the transfer facility equipment storage yard to evaluate identified RECs in relation to the welding area, ASTs, and potential ethylene glycol release were completed. A soil vapor survey in the transfer facility equipment storage yard assessed the presence of volatile organic compounds (VOCs) in soil vapor.

Geocon Inc. compared the soil concentrations to the California Human Health Screening Levels (CHHSLs) for residential land uses. The detected concentrations in the soil samples did not exceed their respective CHHSLs for residential land uses.

Arsenic was detected in the soil samples collected from the agricultural areas at concentrations exceeding the residential CHHSL. However, the arsenic concentrations were well below the California Department of Toxic Substance Control's regional background level for arsenic in Southern California soil.

The analytical results for soil and soil vapor samples were collected from the transfer facility equipment storage yard. The results of the potential health risk evaluation show that this portion of the site had not been, or was no longer affected by, petroleum hydrocarbons, VOCs, Title 22 metals, or ethylene glycol at concentrations that were considered detrimental to human health or the environment. As such, Geocon Inc. concluded further assessment of these compounds is not warranted.

### **Site Reconnaissance**

Geocon Inc. performed site reconnaissance on the project site on July 7, 2016. The interior of the existing dilapidated structures were not observed. The observations are summarized below:

- The project site was observed to be in a rural area with agricultural and residential neighborhoods.
- Several vacant dilapidated single-family structures were located throughout the site.
- Additional structures observed included a single-family residence converted into an office building, storage structures, and a transfer facility.
- A water filtration facility with an associated lined pond and concrete foundation of a former approximately 250,000-gallon water tank are located near the center of the site.
- Water filtration equipment and three polyethylene storage tanks were observed on the foundation of the former water tank located in the central portion of the site.
- Three polyethylene storage tanks were observed in a fenced area adjacent to a former water filtration facility.
- A 250-gallon tote (labeled as containing a water surfactant) was observed near the foundation of the former water tank.
- No evident staining indicating a release was observed adjacent to the storage tanks or tote.
- Two lined desilting basins were observed along the eastern site boundary.
- A network of unimproved roads and an irrigation system extend throughout the site, along with vacant temporary greenhouses.
- A groundwater well used to supply the irrigation system is located in the south corner of the agricultural area.

- A transfer facility located on the east-central site boundary consists of a refrigerated storage building, a loading dock, materials storage rooms for packing components, fertilizer components, and other agricultural materials.
- Two concrete secondary containment areas formerly housing fuel and oil ASTs are located south of the transfer facility.
- Absorbent matrix and evidence of staining within the containment areas and adjacent soil indicative of small-scale releases was observed. A former equipment repair area consisting of a covered concrete area and storage rooms is located east of the transfer facility and AST containments.
- Minimal staining was observed in the equipment repair area, a storage room, and adjacent to a former fertilizer injection area on the western portion of the site.
- A former composting area is located north of the transfer facility.
- Vacant pesticide and chemical storage structures were identified in the central portion of the site. No evident staining indicating a release was observed within or adjacent to the pesticide and chemical storage buildings.
- Pole-mounted electrical transformers were observed on the northern and central portions of the site. No evident staining indicating a release was observed adjacent to the transformers.

## **Interviews**

Geocon Inc. interviewed Ninia Hammond through a questionnaire. The questionnaire and responses from Ms. Hammond can be found in the Phase I ESA (Appendix I). Ms. Hammond indicated that the only information she was aware of regarding the site was present in the previous 2014 Phase I ESA.

## **Wildfire Setting and History**

### ***Site Characteristics and Fire Environment***

The project site is currently composed of a variety of vegetation types, including primarily farm land, that were mapped by Dudek in preparation of the Biological Resources Technical Report (Appendix E). Extensive vegetation type mapping is useful for fire planning because it enables each vegetation community to be assigned a fuel model, which is used by a software program to predict fire characteristics. The project site's existing vegetative fuel types is primarily farmland (row crops), although smaller pockets of southern willow scrub, mulefat scrub, and eucalyptus woodland types are present. More detailed information regarding the plant communities and land cover types within the project site is provided in Section 4.4, Biological Resources, and Appendix E.

The site's vegetation fire risk is primarily determined by project-adjacent vegetation along the San Luis Rey River and the surrounding properties. The growth of vegetation types/fuel models is influenced by aspect (orientation), soil constituents, soil depth, soil moisture, and weather. Off-site fuels within San Luis Rey Riverbed were evaluated for wildfire behavior because they are the nearest wildland fuels that would be subject to wildfire along the southern side of the proposed project. The primary vegetation types that are found along the riverbed are southern arroyo willow riparian forest and mulefat scrub. Southern arroyo willow riparian forest is dominated by moderately tall (35 feet to 45 feet in height) black willow (*Salix gooddingii*) trees with closed or partially closed canopies, while dense understories are mulefat (*Baccharis salicifolia*), giant reed (*Arundo donax*), and stinging nettle (*Urtica dioica* ssp. *holosericea*). The mulefat scrub plant community north of the riverbed is composed primarily of mulefat with an understory of stinging nettle and poison hemlock (*Conium maculatum*). Typically, native riparian species are not well adapted to frequent or severe fire (Bell 1997). However, riparian areas within the San Luis Rey River Watershed have been invaded with dense stands of giant reed (a 15-foot-high, extremely flammable plant) and have a buildup of large quantities of dead material from drought conditions. As such, riparian corridors are changing from barriers to the spread of fires into wicks that carry fire up and downstream into the crowns of native willows (Dudley 1998), increasing the threat to life and property like what was experienced in the 2017 Lilac Fire.

Private properties to the west, north, and east are dominated by non-native grasses and forbs that have been cut annually by the property owners in accordance with the City of Oceanside's (City's) weed abatement standards. This fuel modification practice has reduced the fuel height and density, which would result in substantially reduced flame lengths and fire intensity associated with fire in this grassland fuel type.

### ***Fire History***

Fire history data provides valuable information regarding fire spread, fire frequency, ignition sources, and vegetation/fuel mosaics across a given landscape. Fire frequency, behavior, and ignition sources are important for fire response and planning purposes. One important use for this information is as a tool for pre-planning. It is advantageous to know which areas may have burned recently and, therefore, may provide a tactical defense position, what type of fire burned on the site, and how a fire may spread.

Figure 4.9-2 presents a graphical view of the project site's recorded fire history. As presented on the map, there have been approximately 19 fires recorded since 1910 by CAL FIRE in their FRAP database (CAL FIRE 2016) <sup>1</sup> in the direct vicinity of the project site. These fires,

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<sup>1</sup> Based on polygon GIS data from CAL FIRE's Fire and Resource Assessment Program (FRAP), which includes data from CAL FIRE, USDA Forest Service Region 5, BLM, NPS, Contract Counties and other agencies. The data set is a comprehensive fire perimeter GIS layer for public and private lands throughout the state and covers fires 10 acres and greater between 1878–2016.

occurring in 1937 (twice), 1938, 1941, 1953, 1957, 1971, 1972, 1975, 1983, 1984, 1985, 2005, 2007, 2010, 2014 (three times), and 2017, burned within 5 miles of the project site. No fires in the recorded history have burned across the project site; however, the River Fire burned within the San Luis Rey Riverbed near the southwestern corner of the project site in 2014, burning 168 acres. The 2017 Lilac Fire, which burned approximately 5 miles to the northeast of the project site, was the most recent and second largest wildfire in the vicinity of the proposed project, with a total burned area of approximately 4,100 acres. The Oceanside Fire Department (OFD) may have data regarding smaller fires (less than 10 acres) that have occurred near the site that are not included in CAL FIRE's dataset.

Typically the highest fire danger is produced by the high-pressure systems that occur in the Great Basin, which result in the Santa Ana winds of Southern California. Sustained wind speeds recorded during recent major fires in San Diego County (County) exceeded 30 miles per hour (mph) and may exceed 50 mph during extreme conditions. The Santa Ana wind conditions are a reversal of the prevailing southwesterly winds that usually occur on a region-wide basis during late summer and early fall. Santa Ana winds are warm winds that flow from the higher desert elevations in the north through the mountain passes and canyons. As they converge through the canyons, their velocities increase. Consequently, peak velocities are highest at the mouths of canyons and dissipate as they spread across valley floors. Santa Ana winds generally coincide with the regional drought period and the period of highest fire danger. The project site is affected by strong winds, such as Santa Ana winds.

### **Airport Hazards**

The project site is located approximately 4.3 miles northeast of the Oceanside Municipal Airport. Figure 4.9-3 shows the project site's location relative to the Oceanside Municipal Airport influence area. As shown on Figure 4.9-3, the project site is not located within the Oceanside Municipal Airport influence area.

## **4.9.2 Regulatory Setting**

### **Federal**

#### ***Federal Toxic Substances Control Act and Resource Conservation and Recovery Act***

The Federal Toxic Substances Control Act of 1976 (15 U.S.C. 2601–2697) and the Resource Conservation and Recovery Act (RCRA) of 1976 (42 U.S.C. 6901–6992) established a program administered by the U.S. Environmental Protection Agency (EPA) for regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (PL 98-616), which affirmed and extended the “cradle-to-grave” system of regulating hazardous wastes. The use of certain techniques for the disposal of some

hazardous wastes was specifically prohibited by the Hazardous and Solid Waste Act. Under the authority of RCRA, the regulatory framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste is found in Title 40, Parts 260–299, of the Code of Federal Regulations.

### ***Hazardous Materials Transportation Act***

The U.S. Department of Transportation regulates hazardous materials transportation under Title 49 of the United States Code. State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and the California Department of Transportation. These agencies also govern permitting for hazardous materials transportation. Title 49 of the Code of Federal Regulations reflects laws passed by Congress as of January 2, 2006.

### ***Comprehensive Environmental Response, Compensation, and Liability Act***

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 U.S.C. 9601–9675), commonly known as “Superfund,” was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan. The National Contingency Plan provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants.

### ***International Fire Code***

The International Fire Code (IFC) (ICC 2012), created by the International Code Council (ICC), is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The IFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The IFC and the International Building Code (IBC) use a hazard classification system to determine what protective measures are required to protect life safety in relation to fire. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, the IFC employs a permit system based on hazard classification. The IFC is updated every 3 years.

### ***Federal Aviation Administration Functions***

The Federal Aviation Administration (FAA) has primary responsibility for the safety of civil aviation. The FAA's major functions regarding hazards include the following: (1) developing and operating a common system of air traffic control and navigation for both civil and military aircraft, (2) developing and implementing programs to control aircraft noise and other environmental effects of civil aviation, (3) regulating U.S. commercial space transportation, and (4) conducting reviews to determine that the safety of persons and property on the ground are protected.

### ***Federal Response Plan***

The Federal Response Plan of 1999 (FEMA 1999) is a signed agreement among 27 federal departments and agencies, including the American Red Cross, that (1) provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of state and local governments overwhelmed by a major disaster or emergency; (2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and (3) supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a presidential declaration of a major disaster or emergency.

## **State**

### ***California Occupational Safety and Health Administration***

The California Occupational Safety and Health Administration (CalOSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. CalOSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 330 et seq.). The regulations specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings.

### ***California Hazardous Waste Control Act***

The Department of Toxic Substances Control is responsible for the enforcement of the Hazardous Waste Control Act (California Health and Safety Code, Section 25100 et seq.), which creates the framework under which hazardous wastes are managed in California. The law provides for the development of a state hazardous waste program that administers and implements the provisions of the federal RCRA cradle-to-grave waste management system in California. It also provides for the designation of California-only hazardous waste and development of standards that are equal to or, in

some cases, more stringent than federal requirements. While the Hazardous Waste Control Act is generally more stringent than RCRA, until the EPA approves the California hazardous waste control program (which is charged with regulating the generation, treatment, storage, and disposal of hazardous waste), both the state and federal laws apply in California. The Hazardous Waste Control Act lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

According to Title 22 of the California Code of Regulations, Sections 66001 et seq., substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous waste. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, or contaminated or stored prior to proper disposal.

Toxic substances may cause short-term or long-lasting health effects ranging from temporary effects to permanent disability or death. For example, toxic substances can cause eye or skin irritation, disorientation, headache, nausea, allergic reactions, acute poisoning, chronic illness, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substance involved). Carcinogens (substances known to cause cancer) are a special class of toxic substances. Examples of toxic substances include most heavy metals, pesticides, and benzene (a carcinogenic component of gasoline). Ignitable substances (e.g., gasoline, hexane, and natural gas) are hazardous because of their flammable properties. Corrosive substances (e.g., strong acids and bases such as sulfuric [battery] acid or lye) are chemically active and can damage other materials or cause severe burns upon contact. Reactive substances (e.g., explosives, pressurized canisters, and pure sodium metal, which react violently with water) may cause explosions or generate gases or fumes.

Other types of hazardous materials include radioactive and biohazardous materials. Radioactive materials and wastes contain radioisotopes, which are atoms with unstable nuclei that emit ionizing radiation to increase their stability. Radioactive waste mixed with chemical hazardous waste is referred to as “mixed wastes.” Biohazardous materials and wastes include anything derived from living organisms. They may be contaminated with disease-causing agents, such as bacteria or viruses (22 CCR 66261.1 et seq.).

### ***Cortese List***

California Government Code, Section 65962.5, commonly referred to as the Cortese List, was originally enacted in 1985. Provisions set forth in California Government Code, Section 65962.5, require the California Department of Toxic Substances Control to compile and update a list of the following:

- All hazardous waste facilities subject to corrective action

- All land designated as hazardous waste property or border zone property
- All information received by the California Department of Toxic Substances Control on hazardous waste disposals on public lands
- All sites listed pursuant to Section 25356 of the California Health and Safety Code (hazardous substance release sites)
- All sites included in the Abandoned Site Assessment Program

### ***California Accidental Release Prevention Program***

Similar to the EPA Risk Management Program, the California Accidental Release Prevention (CalARP) Program (19 CCR 2735.1 et seq.) regulates facilities that use or store regulated substances, such as toxic or flammable chemicals, in quantities that exceed established thresholds. The overall purpose of CalARP is to prevent accidental releases of regulated substances and reduce the severity of releases that may occur. The CalARP Program meets the requirements of the EPA Risk Management Program, which was established pursuant to the Clean Air Act Amendments.

### ***California Health and Safety Code***

In California, the handling and storage of hazardous materials is regulated by Division 20, Chapter 6.95, of the California Health and Safety Code (Section 25500 et seq.). Under Sections 25500–25543.3, facilities handling hazardous materials are required to prepare a hazardous materials business plan. Hazardous materials business plans contain basic information about the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the state.

Chapter 6.95 of the California Health and Safety Code establishes minimum statewide standards for Hazardous Materials Business Plans. Each business shall prepare a Hazardous Materials Business Plan if that business uses, handles, or stores a hazardous material (including hazardous waste) or an extremely hazardous material in disclosable quantities greater than or equal to the following:

- 500 pounds of a solid substance
- 55 gallons of a liquid
- 200 cubic feet of compressed gas
- A hazardous compressed gas in any amount (highly toxic with a Threshold Limit Value of 10 parts per million or less)
- Extremely hazardous substances in threshold planning quantities (California Health and Safety Code, Section 25507)

In addition, in the event that a facility stores quantities of specific acutely hazardous materials above the thresholds set forth by California Health and Safety Code, facilities are also required to prepare a risk management plan and California accidental release prevention plan. The risk management plan and accidental release prevention plan provide information about the potential impact zone of a worst-case release, and require plans and programs designed to minimize the probability of a release and mitigate potential impacts.

### ***California Fire Code***

The California Fire Code (CFC) is Chapter 9 of Title 24 of the California Code of Regulations. It was created by the California Building Standards Commission and is based on the IFC created by the ICC. It is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The CFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The CFC and the California Building Code use a hazard classification system to determine what protective measures are required to protect fire and life safety. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, the CFC employs a permit system based on hazard classification. The CFC is updated every 3 years.

### ***California Emergency Services Act***

Under the Emergency Services Act (California Government Code, Section 8550 et seq.), the State of California developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous materials or hazardous waste is an integral part of the plan, which is administered by the Governor's Office of Emergency Services. The Office of Emergency Services coordinates the responses of other agencies, including the EPA, California Highway Patrol, Regional Water Quality Control Boards (RWQCBs), air quality management districts, and county disaster response offices.

### ***Regional Water Quality Control Board (RWQCB)***

The RWQCB implements the California Water Code, which regulates waste discharges to land. If a discharge of waste threatens a water of the state, a report of waste discharge or an application for a waiver of a report of waste discharge must be filed with the RWQCB. The RWQCB accomplishes its permitting responsibility by issuing either a general or site-specific permit (Waste Discharge Permit) or a waiver of a permit.

## **Local**

### ***San Diego County Emergency Plan***

The County Emergency Plan is a comprehensive emergency management system that provides for a planned response to disaster situations associated with natural disasters, technological incidents and nuclear defense operations. The plan includes operational concepts relating to various emergency situations, identifies components of the emergency management organization and describes the overall responsibilities for protecting life and property and assuring the overall well-being of the population. The plan also identifies the sources of outside support that might be provided (through mutual aid and specific statutory authorities) by other jurisdictions, state and federal agencies, and the private sector.

### ***San Diego County Multi-Jurisdiction Hazard Mitigation Plan***

The County Multi-Jurisdiction Hazard Mitigation Plan was prepared in July 2010 to meet federal and state requirements for disaster preparedness to make the County eligible for funding and technical assistance from state and federal hazard mitigation programs. The plan includes a risk assessment to enable local jurisdictions to identify and prioritize appropriate mitigation actions that will reduce losses from potential hazards, including flooding, earthquakes, fires, and artificial hazards. To address potential hazards, the plan incorporates mitigation goals and objectives, mitigation actions and priorities, an implementation plan, and documentation of the mitigation planning process for each of the 21 participating jurisdictions, including the City.

### ***California Disaster and Civil Defense Master Mutual Aid Agreement***

As provided for in the California Emergency Services Act, this agreement was developed in 1950 and adopted by all 58 California counties. This statewide mutual aid system is designed to ensure that adequate resources, facilities, and other support is provided to jurisdictions whenever their own resources prove to be inadequate to cope with a given situation. San Diego County is located in Mutual Aid Region 6 of the state system, which also includes Imperial, Riverside, San Bernardino, Inyo, and Mono Counties.

### ***Oceanside Municipal Airport Land Use Compatibility Plan***

The County Regional Airport Authority develops and adopts Airport Land Use Compatibility Plans (ALUCPs) for each public use and military airport within its jurisdiction. The Oceanside Municipal ALUCP, as amended in December 2010, provides policies to ensure compatibility with the airport and surrounding land uses. These policies span various topics, including noise, overflight zones, and safety. The ALUCP is based on the FAA-approved Airport Layout Plan.

### ***City of Oceanside General Plan***

State of California law requires that each city prepare and adopt an approved General Plan that provides comprehensive, long-term guidance for the City’s future. General Plans are also required to contain specific elements regarding different areas of planning; relevant elements are as follows.

#### **Hazardous Waste Management Element**

The Hazardous Waste Management Element serves as primary guidelines for policies as they relate to effective management of hazardous materials within the City’s influence. This element emphasizes policies that minimize hazardous waste within the City and contains siting criteria for specified hazardous waste facilities.

#### **Public Safety Element**

The Public Safety Element identifies hazards, such as earthquakes, fires, and tsunamis, and provides guidelines for proper mitigation measures, such as evacuation routes, to ensure safety. Along with long range policies regarding seismic, flooding, and fire hazards, this element also includes a Public Safety Plan. The Public Safety Plan includes maps indicating areas that have increased susceptibility to these hazards and relocation routes during emergency evacuations. The Public Safety Element identifies the following roadway relocation routes in proximity to the project site (refer to Figure 2-2 for the project site relation to surround roadways):

- N. River Road (entire roadway, including through the project site)
- State Route (SR-) 76 (entire roadway)
- Vandegrift Boulevard
- College Boulevard (between N. River Road and SR-76)
- N. Santa Fe Avenue (south of SR-76)

### **4.9.3 Thresholds of Significance**

The significance criteria used to evaluate the project impacts related to hazards and hazardous materials are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to hazards and hazardous material would occur if the proposed project would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as result, would it create a significant hazard to the public or the environment.
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would result in a safety hazard for people residing or working in the project area.
6. For a project within the vicinity of a private airstrip, would result in a safety hazard for people residing or working in the project area.
7. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
8. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including, where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

#### **4.9.4 Impacts Analysis**

*Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Construction of the proposed project would include routine transport of potentially hazardous materials, including but not limited to gasoline, oil, solvents, cleaners, and paint. Proper best management practices (BMPs) (such as proper and clear labeling of chemicals and preparation of an accidental release plan), stormwater pollution prevention plans (SWPPPs) (refer to Section 4.10, Hydrology and Water Quality), and hazardous materials–handling protocols would be prepared and implemented to ensure safe storage, handling, transport, use, and disposal of all hazard materials during the construction phase of the proposed project, in compliance with all applicable laws, ordinances, rules, regulations, and orders. Construction would also adhere to any local standards set forth by the City, as well as state and federal health and safety requirements that are intended to minimize hazardous materials risk to the public, such as CalOSHA requirements, Hazardous Waste Control Act, CalARP, and the California Health and Safety Code (described in Section 4.9.2). Therefore, impacts are found to be less than significant in relation to the construction phase of the proposed project.

The operational phase of the proposed project primarily involves residential dwellings, commercial uses, and community agricultural, with associated landscape and facility maintenance. Agricultural operations could require the application of synthetic chemicals such as fertilizers, pesticides, and herbicides. As described in Section 4.3, Air Quality, the application of pesticides is regulated by Title 3, Division 6, of the California Code of Regulations. The California Code of Regulations has specified guidelines governing application of individual pesticides (4 CCR 6445 et seq.). The code also prohibits the application of synthetic chemicals when there is a reasonable possibility of contamination of persons not involved in the application process. The proposed project would also be required to comply with recent amendments to Title 3, Division 6, of the California Code of Regulations adopted by the California Department of Pesticide Regulation (DPR) in effect as of January 1, 2018. Normal use of fertilizers, pesticides, and herbicides could result in some off-site movement, which occurs with every application; however, the application of synthetic chemicals are regulated in order to minimize spray drift affecting nearby residents and/or employees on the project site. To control for drift, DPR requires numerous pesticide application standards (unless expressly authorized by a permit), including maximum application distance of 10 feet above the target, maximum wind velocity of 10 mph, application nozzles with a positive action valve, pressure requirements based on application method (aircraft or ground), flow rates, and application angle (4 CCR 6560 et seq.). Furthermore, the proposed project would implement natural growing methods and permaculture techniques, which would avoid the likelihood of exposure to the community and surrounding area. Therefore, impacts related to agricultural operations would be less than significant.

Hazardous materials used in residential and commercial areas would be limited to private use of commercially available cleaning products, landscaping chemicals and fertilizers, and various other commercially available substances. These substances are required to comply with relevant federal, state, and local health and safety laws, which are intended to minimize health risk to the public associated with hazardous materials. Because the proposed project would comply with all applicable federal, state, and local regulations related to hazardous materials, impacts related to the operational phase of the proposed project would be less than significant.

***Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?***

The project site has been historically, and is currently, cultivated for agricultural use, resulting in potential soil contamination from hazardous materials associated with agricultural operations. Construction of the proposed project would require excavation of on-site soils, which may result in the release of potentially hazardous materials. In the event that the proposed project encounters contaminated soils during grading and excavation, it could result in increased health risks to construction workers and future residents and potentially impact water quality.

The Phase I ESA did not identify any RECs or potential environmental concerns associated with the project site or adjacent/near properties. Previous soil sampling and analysis concluded that potential chemical concentrations do not exceed thresholds that would adversely affect the public or the environment (refer to Section 4.9.1). Therefore, it is not expected that soils would present substantial hazard to the public and environment during excavation. However, should suspect or stained soils be encountered during grading, additional testing and remediation in accordance with the County of San Diego Department of Environmental Health requirements would be performed. Therefore, impacts would be less than significant.

Based upon the age of on-site structures, there is potential for asbestos-containing material (ACM) and/or lead-containing paint (LCP) to be present. Therefore, impacts associated with demolition and removal of these structures would be potentially significant. Mitigation Measure (MM-) HAZ-1 requires the implementation of an ACM and LCP work plan prior to demolition of these structures to confirm the presence of these hazardous materials and to determine the appropriate health and safety requirements for demolition and disposal. With incorporation of MM-HAZ-1, potentially significant impacts related to the release of hazardous materials would be reduced to a level below significance.

During both construction and operation of the proposed project, there is potential for release of hazardous materials related to storage, transport, use, and disposal from construction debris, landscaping, and commercial products. However, the proposed project would be required to adhere to federal, state, and local laws, such as CalOSHA requirements, Hazardous Waste Control Act, CalARP, and the California Health and Safety Code, that regulate the management and use of hazardous materials, which are intended to minimize risk to public health associated with hazardous materials. Additionally, the proposed project proposes residential development, which is not typically considered a source of substantial hazardous materials. Therefore, the proposed project's compliance with these laws would result in less-than-significant impacts.

***Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?***

No schools are located within 0.25 miles of the project site. Del Rio Elementary School, located approximately 0.36 miles to the west of the project site, is the nearest school. The nearest schools not within a one-quarter mile distance to the project site include Mission Vista High School (approximately 0.69 miles to the east of the project site), Alamosa Park Elementary School (approximately 0.85 miles to the south of the project site), Libby Elementary School (approximately 1.04 miles to the southwest of the site), and Mission Meadows Elementary School (approximately 1.41 miles to the southeast of the site). Additionally, while the proposed project includes an education center, it is not proposed as a full-time educational facility that would constitute a school. Rather, the use of the education center would provide for discrete periods of educational opportunities for various populations, including children, for special programming and events.

As discussed in Section 4.3, the proposed project would not result in significant toxic air contaminant concentrations or hazardous emissions during construction or operation. Agricultural operations could require the application of synthetic chemicals such as fertilizers, pesticides, and herbicides. DPR 16-004, Pesticide Use Near School Sites, requires that growers notify public schools, child daycare facilities, and the County's Agricultural Commissioner when certain pesticide applications made for the production of an agriculture commodity near a school site are planned in the coming year and in days prior to application. Certain pesticide applications near school sites are also prohibited at certain times. Normal use could result in some off-site movement, which occurs with every application; however, the application of synthetic chemicals are regulated in order to minimize spray drift affecting nearby residents, students, and/or employees. Therefore, the proposed project would have a less-than-significant impact in regards to exposing sensitive receptors to synthetic chemicals from agricultural operations.

As previously stated in the above analysis, the proposed project would be required to adhere to federal, state, and local laws that regulate the management, use, and disposal of hazardous materials, which are intended to minimize the risk to public health associated with hazardous materials. Furthermore, implementation of MM-HAZ-1 would reduce impacts related to the potential release of hazardous materials into the immediate area to less than significant. Therefore, the proposed project's compliance with these laws and MM-HAZ-1 would result in less-than-significant impacts to the schools in the vicinity of the project site.

***Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as result, would it create a significant hazard to the public or the environment?***

As part of the Phase I ESA, a database search report was obtained from EDR that documents various federal, state, and local regulatory database searches regarding properties with known or suspected releases of hazardous materials, chemical handlers, and/or polluters. The results are summarized below, and full information is provided in Appendix I.

Of the databases searched, the project site is found on the County Hazardous Materials Management Division (HMMD), HAZNET, and AST databases. The HMMD database indicates the last inspection occurred in November 2011, and no violations were noted. The HAZNET database reports disposal of unspecified waste in 2011 and 2012. The AST database indicates that petroleum products are stored on site.

Furthermore, the Spills, Leaks, Investigation, and Cleanup Program (SLIC) database lists the site with a status of "Completed-Case Closed" as of April 29, 1997. The LDS database lists the facility with a status of "Completed-Case Closed" as of April 1, 1997.

The database search also found one listed property located within one-eighth mile from the project site. The property is located at 306 Wilshire Road and listed in the AST database for a 2,775-gallon AST.

The EDR report includes an Orphan Summary that identifies properties that have incomplete address information and therefore could not be accurately plotted. The Orphan Summary lists four properties that appear to be greater than 1 mile from the site. Based on the distances of these properties from the site and the databases reported, no adverse impact to the site is expected.

A review of information concerning permitted facilities, environmental investigations, and remediation projects regulated by the Regional Water Quality Control Board (RWQCB) and the DTSC on GeoTracker and EnviroStor, respectively, was performed. No facilities located within approximately 0.25 miles of the site were identified in GeoTracker or EnviroStor that would be expected to have an adverse impact to the site.

The California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR), online mapping system was reviewed for information regarding the location and status of any oil or natural gas exploration or production at or in the vicinity of the site. The DOGGR online mapping system shows no oil or gas wells within 1 mile of the site.

As discussed previously, the Phase I ESA did not identify any RECs or potential environmental concerns within the project site, based on the project site's history and database records, among others. Previous soil sampling and analysis concluded that potential chemical concentrations do not exceed thresholds that would adversely affect the public or the environment (refer to Section 4.9.1). Therefore, implementation of the proposed project would result in less-than-significant impacts to the public or the environment from a listed hazardous materials site.

***For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?***

The nearest airport to the project site is the Oceanside Municipal Airport, located approximately 4.5 miles west of the project site in the City. The project site is not located within the airport's area of influence due to distance (Figure 4.9-3) (SDCRAA 2010). Therefore, the proposed project would not expose workers or patrons to safety hazards associated with airports. Impacts would be less than significant.

***For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?***

The project site is not located within the vicinity of a private airstrip and would not result in safety hazards for people residing or working on the project site. Therefore, no impact would occur.

***Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

N. River Road currently bisects the project site and would be the primary access to the site. The City's General Plan Public Safety Element lists N. River Road, SR-76, and College Boulevard as the nearest primary evacuation routes. The City has an adopted Emergency Plan that outlines how local jurisdictions would implement a comprehensive emergency management system in response to a disaster; as part of the approval of the proposed project, the disclosure of all natural and human-induced hazards must be made to the City as found throughout this EIR (specifically Section 4.7, Geology and Soils, and this section) (City of Oceanside 2009).

As discussed in Section 4.17, Traffic and Circulation, during construction of the proposed project, construction workers would use N. River Road as a primary access to the project site. A portion of the construction phase includes improvements to N. River Road and Wilshire Road. Construction of these improvements would require partial road closures, construction vehicles entering and exiting the project site, and pedestrian or bicycle lane closures. Construction along these roadways may potentially result in impacts to general access to surrounding land uses, including emergency access. Prior to permit issuance of construction activity within the public right-of-way, a Traffic Control Plan (TCP) would be developed to the approval of the City according to specified requirements. Implementation of the TCP would maintain adequate access to the project site and surrounding land uses during construction, and would ensure that construction-related impacts on emergency response and evacuation are less than significant.

As discussed in Section 4.17, Traffic and Circulation, the proposed project includes reconstruction of the existing Wilshire Road intersection at N. River Road to improve turning movements, reconfigure vehicle lanes, and make safety improvements. Roadway design improvements in concert with required mitigation would reduce queuing at project intersections; the proposed roundabout would allow for a continuous flow of traffic and would ensure minimal queuing and interference to potential emergency vehicles attempting access to the project site.

**Project-Specific Evacuation Plan**

An Evacuation Plan has been prepared for the proposed project that indicates how the proposed project would evacuate during a wildfire emergency (Appendix J2). The Evacuation Plan has been prepared in coordination with OFD and the City such that it does not conflict with the City's adopted emergency plans or other adopted plans for emergency evacuation.

The overall objectives of the Evacuation Plan are as follows (Appendix J2):

- Expedite the movement of persons from hazardous areas

- Institute access control measures to prevent unauthorized persons from entering vacated, or partially vacated areas
- Provide for evacuation to appropriate transportation points, evacuation points, and shelters
- Provide adequate means of transportation for persons with disabilities, the elderly, other persons with access and functional needs, and persons without vehicles
- Provide for the procurement, allocation, and use of necessary transportation and law enforcement resources by means of mutual aid or other agreements
- Control evacuation traffic
- Account for the needs of individuals with household pets and service animals prior to, during, and following a major disaster or emergency
- Provide initial notification, ongoing, and re-entry communications to the public through the Joint Information Center
- Assure the safe re-entry of the evacuated persons

The intent of the Evacuation Plan is to guide implementation of an evacuation procedure so the process of evacuating people from the project site is facilitated in an efficient manner and according to a pre-defined and practiced evacuation protocol. The Evacuation Plan (Appendix J2) also provides a contingency option for temporary refuge if evacuation is considered less safe.

Wildfire emergency response procedures would vary depending on the type of wildfire and the available time in which decision makers can assess the situation and determine the best course of action. Based on the area, its road network, and the related fire environment, the primary type of evacuation envisioned is an orderly, pre-planned evacuation process where people are evacuated from the project site to urban areas farther from an encroaching wildfire well before fire threatens. The Evacuation Plan (Appendix J2) contains evacuation threshold triggers based on fire behavior modeling, red flag warning, and the recent 2017 Lilac Fire.

There are the following three primary ingress/egress routes for the project site:

- **Eastern Primary Route 1:** N. River Road to SR-76 to the east/northeast, central and eastern portions of the northern and southern development areas.
- **Western Primary Route 2:** N. River Road to College Boulevard to SR-76 to the west/southwest, western and central portions of the northern and southern development areas.
- **Western Primary Route 3:** N. River Road to Douglas Drive to SR-76 to the west/southwest, western and central portions of the northern and southern development area.

In addition, the Evacuation Plan would be provided to each homeowner/homeowners association (HOA) member and accessible on the HOA website. Annual reminder notices would be provided to each homeowner to encourage them to review the plan and be familiar with community evacuation protocols. The HOA would coordinate with OFD to hold an annual fire safety and evacuation preparedness informational meeting. Representatives of OFD would be invited to attend the meeting and review important fire and evacuation information. One focus of these meetings and of the HOA's annual message would be the importance of each resident to prepare and be familiar with their own "Ready, Set, Go!" evacuation plan (Appendix J2). As part of the approval of the proposed project, it shall be binding on the HOA to actively participate as a partner with the OFD to assist with the coordination and distribution of the fire safety information they develop.

Therefore, with implementation of the Evacuation Plan, the proposed project would not interfere with emergency response and evacuation during operation, and impacts would be less than significant.

***Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including, where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?***

This section focuses on wildfire hazard risk as opposed to emergency response capabilities of the Oceanside Fire Department. Refer to Section 4.15, Public Services, for discussion of potential impacts to emergency response.

### **Construction**

Construction of the proposed project could present sources of ignition, such as engine-powered equipment and storage of fuels or other flammable materials. Chapter 33 of the CFC (the City has adopted the CFC by reference in Chapter 11, Fire Protection, of the City's Municipal Code) outlines general fire safety precautions during construction and demolition (California Building Standard Commission 2016). These fire safety precautions are intended to maintain minimum levels of fire protection and limit the spread of fire (California Building Standard Commission 2016). Such features include fire protection systems, emergency access to the site, and proper storage and handling of hazardous materials and other ignition sources (California Building Standard Commission 2016). The City would require the construction contractor to comply with the City's Municipal Code and the CFC as it relates to minimization and precautions of fire hazard during construction. Therefore, impacts would be less than significant.

### **Operation**

The project site is located along N. River Road directly north of SR-76. The northern portion of the project site is bordered on the east by Wilshire Road. Agriculture and open space lands border the southern portion of the project site, and the Arrowood Golf Course, single-family residential uses,

and a church border the west of the project site. Existing agriculture borders the northern portion of the project site. According to CAL FIRE's Very High Fire Hazard Severity Zones in LRA (Local Responsibility Area) map, the project site (and the majority of the City) is not located within a Very High Fire Hazard Severity Zone (CAL FIRE 2009). Fire hazard designations are based on topography, vegetation, and weather, among other factors, with more hazardous sites including steep terrain, unmaintained fuels/vegetation, and wildland urban interface (WUI) locations. However, none of these conditions are found on the project site.

The proposed project's FPP includes an evaluation of anticipated fire behavior. Following field data collection efforts and available data analysis, fire behavior modeling was conducted to document the type and intensity of fire that would be expected in the vicinity of and adjacent to the project site given characteristic site features such as topography, vegetation, and weather. The BehavePlus 5.0.5 fire behavior modeling software package was used to analyze fire behavior for the wildland fuels around the perimeter of the property.

Fire behavior modeling assumed worst-case fire weather conditions for a fire approaching the project site from the west or east. Based on the fire behavior modeling results (presented in Appendix J1), the maximum flame lengths anticipated in untreated, surface grass fuels could reach 26.3 feet in height with rapid rates of spread (8.3 mph) under extreme weather conditions, represented by sustained winds blowing at 35 mph. Should ignition in the San Luis Rey riverbed occur, the riparian forest understory would be expected to burn aggressively due to the presence of large amounts of biomass from dense stands of willows and giant reed (*Arundo donax*), which is extremely flammable. Embers could be generated, resulting in ignition of receptive fuel beds approximately 0.9 to 1.3 miles downwind.

Fires burning from the southwest or west and pushed by ocean breezes exhibit less severe fire behavior. Under typical summer weather conditions, a grass fire could have flame lengths ranging from 2 to 16 feet in height and spread rates up to 1.9 mph. These results depend on whether the grass fuel bed is cut to less than 6 inches in height or untreated. Modeling outputs indicate flame lengths (10 feet) and a transition to crown fire resulting from a fire burning in riparian forest and mulefat scrub areas. Spotting distances, where airborne embers can ignite new fires downwind of the initial fire, range from approximately 0.1 to 0.5 miles. It should be noted that fire and fuel models are used for analysis and planning purposes, since actual fire behavior for any given location would be affected by numerous factors (Appendix J1).

Wildland fires are a common natural hazard in most of Southern California with a long and extensive history. Southern California landscapes include a diverse range of plant communities, including vast tracts of shrublands and riparian habitats. Wildfire in this Mediterranean-type ecosystem ultimately affects the structure and functions of vegetation communities and will continue to have a substantial and recurring role. Supporting this are the facts that (1) native landscapes, from forest to grasslands, become highly flammable each fall; and (2) the climate of Southern California has been characterized

by fire climatologists as the worst fire climate in the United States, with high winds (Santa Ana) occurring during autumn after a 6-month drought period each year. Based on this research, the anticipated growing population of north San Diego County wildland urban interface areas, and the region's fire history, it can be anticipated that large wildfires will occur in the open space areas of the County, with the South Morro Hills area and San Luis Rey River corridor being no exception.

Although the project site has never burned, a recent large wildfire (2017 Lilac Fire) occurred upstream along the San Luis Rey Riverbed about 5 miles to the northeast of the site. The Lilac Fire burned similarly to the results found in the modeled fire behavior for riparian forest under extreme weather conditions. It was evident that the ground fires that occurred in the San Luis Rey Riverbed during the Lilac Fire ladder<sup>2</sup> into willow tree canopies, ultimately leading to a crown fire (see Appendix J1) by which the fire progressed downstream from tree-to-tree canopies. As such, the proposed project is expected to be vulnerable to recurring wildfire ignition and spread and may be subject to nearby wildfire that could, under worst-case conditions, spread through the San Luis Rey Riverbed and burn along the periphery of the proposed project's developed areas. However, the project site, once developed, would not facilitate wildfire spread, especially given the ignition resistance of the structures and planned landscape and farmlands.

The City's Municipal Fire and Building Codes, as well as OFD Form 5205-17 (2017 Fire Master Plans for Commercial and Residential Development), govern the building, infrastructure, and defensible space requirements detailed in the proposed project's FPP. While these standards will provide a high level of protection to structures in this development, there is no guarantee that compliance with these standards will prevent damage or destruction of structures by fire in all cases. However, the proposed project would meet or exceed applicable code requirements for fire at the time of building permit application, minimizing risk of loss, injury, or death involving wildland fires to the extent feasible. Section 6 of the proposed project's FPP (Appendix J1) includes comprehensive, project-specific descriptions of fire safety requirements that are incorporated into project design and would be required of the proposed project prior to the issuance of building permits. Such fire safety requirements are described in full in Section 6 of Appendix J1 and are summarized below:

- Project site access, including road widths and connectivity, would be consistent with the City's roadway standards and the CFC Section 503.
  - The project site access would meet performance standards for roadway materials, dimensions, dead ends, driveway access, street parking, fire lanes, fire apparatus turnarounds, vertical clearance, and access requirements of any proposed gates.
- Ignition-resistant construction (for all structures) that would meet the requirements of the OFD Fire Code would be used. The construction practices would meet the

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<sup>2</sup> Ladder fuels composed of low tree branches or understory vegetation can spread fire from the ground into trees.

requirements of the 2016 California Fire Code, the 2016 California Building Code (CBC), and the California Code of Regulations, Title 14, as amended. These requirements include the ignition-resistant requirements found in Chapter 7A of the CBC and County Building Code:

- Water fire flows will be consistent with OFD requirements for a residential development.
- Hydrants will be located along fire access roadways as determined by the OFD Fire Marshal in consultation with water department to meet operational needs, at intersections, at the beginning radius of cul-de-sacs, and at distances listed in Table C105.1 of the CFC, 2016 edition. Fire hydrants will be fully operable before combustible materials are brought on site.
- All structures will be provided automatic, interior fire sprinklers. Automatic interior fire sprinklers shall be in accordance with the sprinkler design standards of National Fire Protection Association (NFPA) 13 or 13-D and City installation requirements as appropriate. Actual system design is subject to final building design and the occupancy types in the structure.
- All residential units shall have electric-powered, hard-wired smoke detectors and fire alarm systems in compliance with the California Fire Code. Hard-wired smoke alarms are to be equipped with battery backup.
- Project-specific fuel modification zones (FMZs) would be used consistent with the 2016 California Fire Code (Section 4907 — Defensible Space), Government Code 51175 – 51189, and Public Resources Code 4291, which require that fuel modification zones be provided around every building that is designed primarily for human habitation or use and buildings designed specifically to house farm animals. Fuel modification would consist of at least 100 feet, measured in a horizontal plane, around all structures. A typical landscape/FMZ installation consists of a 30-foot-wide, irrigated Zone 1 and a 70-foot-wide, non-irrigated, Zone 2. Refer to Figure 4.9-4 for a conceptual fuel modification design and Appendix J1 for additional details.
  - Roadway fuel modification would be at a minimum 10 feet on each side of a roadway and larger where roads front private lots and front yard landscaping provide the equivalent of fuel modification zone.
  - Row crops and orchards on the project site would be managed and maintained by an on-site agriculture management team. The crops and orchard trees planned for the proposed project would be maintained in an ignition resistant condition and are not considered to represent a wildfire risk. However, the proposed project’s farm plots, agricultural fields, and orchards are near wildland areas, and the rows closest to natural vegetation could be exposed to extreme radiant heat. The agriculture areas

- would perform a dual role as food production and fuel modification zone land uses. Refer to Appendix J1 for specific maintenance requirements for the agricultural areas located nearby wildland areas.
- Certain plants are considered to be undesirable in the landscape due to characteristics that make them highly flammable. These characteristics can be physical (structure promotes ignition or combustion) or chemical (volatile chemicals increase flammability or combustion characteristics). The plants included in the Undesirable Plant List (Appendix D of Appendix J1) are unacceptable from a fire safety standpoint and will not be planted on the site or allowed to establish opportunistically within fuel modification zones or landscaped areas.

The recommendations in the FPP meet fire safety, building design elements, infrastructure, fuel management/modification, and landscaping recommendations of the applicable City codes and OFD policies. The recommendations provided in the FPP have been designed specifically for the proposed construction of structures within the vicinity of a fire hazard severity zone on the project site. The project site's fire protection system includes a redundant layering of protection materials, measures, and methods that have been shown through post-fire damage assessments to reduce risk. It is the intent of the FPP to recommend the construction of structures that are defensible from wildfire and, in turn, do not represent a significant threat of ignition source for adjacent communities. During extreme fire conditions, there are no guarantees that a given structure will not burn. Fire safety measures identified in the FPP and incorporated into the proposed project design, are designed to reduce the likelihood that fire would impinge upon the proposed structures. Wildfires may occur in the area that could damage property or harm persons. However, implementation of the recommendations in the FPP would be required of the proposed project prior to the issuance of building permits and would substantially reduce the risk associated with this project's wildfire hazard vicinity location. Therefore, impacts would be less than significant.

### **4.9.5 Mitigation Measures**

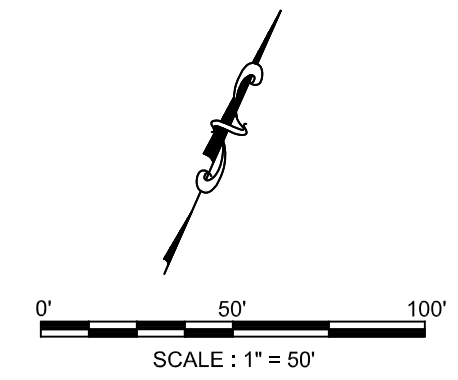
**MM-HAZ-1** Prior to demolition permit issuance by the City of Oceanside (City), an asbestos and lead-based paint abatement work plan shall be prepared in compliance with local, state, and federal regulations for any necessary removal and disposal of such materials. Prior to implementation, the work plan must be reviewed and accepted by the County of San Diego Department of Environmental Health. A California-licensed lead/asbestos abatement contractor shall be used for the removal work and proper removal methodology as outlined in CalOSHA Title 8, Section 1529, of the California Code of Regulations, and all other applicable federal, state, and local regulations regarding the removal, transport and disposal of asbestos-containing material shall be applied.

The asbestos and lead-based paint abatement work plan shall include a monitoring plan to be conducted by a qualified consultant during abatement activities to ensure compliance with the work plan requirements and abatement contractor specifications. The work plan shall include provisions for construction worker training, worker protection, and preparation of exposure assessments as needed. As part of the work plan, construction contractors shall consult federal Occupational Safety and Health Administration (OSHA) Regulations at Title 29, Section 1926.62, of the Code of Federal Regulations and Cal-OSHA Regulations at Title 8, 1532.1, “Lead in Construction” standards for complete requirements. Demolition plans and contract specifications shall incorporate any necessary abatement measures for the removal of materials containing lead-based paint and asbestos to the satisfaction of the City Building Division. The measures shall be consistent with the abatement work plan prepared for the proposed project and conducted by a California-licensed lead/asbestos abatement contractor.

#### **4.9.6 Level of Significance After Mitigation**

Impacts related to hazardous materials would be reduced to less than significant with implementation of MM-HAZ-1.

With implementation of the FPP, impacts related to wildfire hazards would be less than significant, and no mitigation is required.

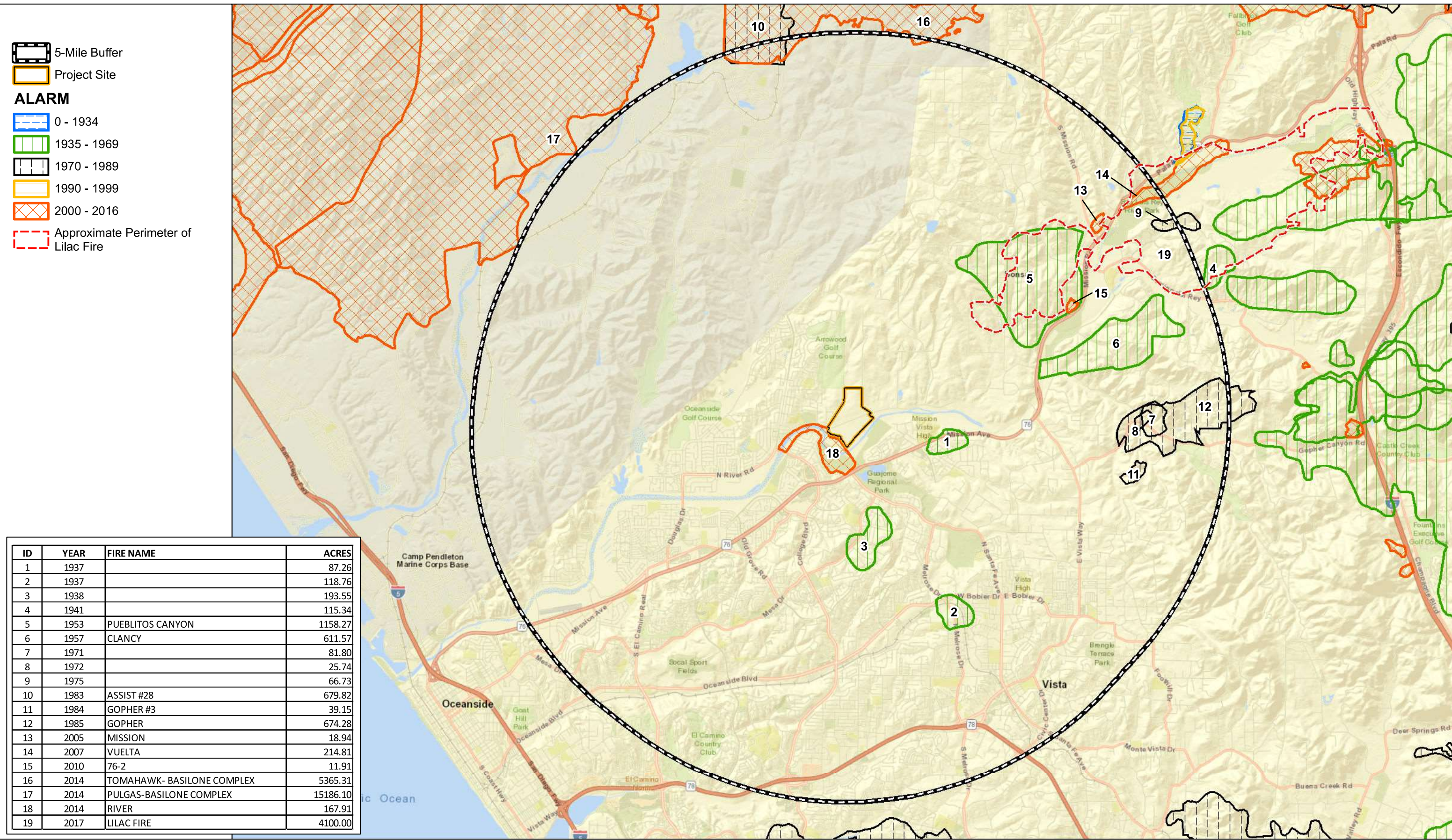


- LEGEND**
- B66 ..... APPROXIMATE BORING LOCATION (BY GEOCON, 2014)
  - SV-9 ..... APPROXIMATE SOIL VAPOR BORING LOCATION (BY GEOCON, 2014)
  - OYSG-20 ..... APPROXIMATE BORING LOCATION (BY CONSTRUCTION TESTING ENGINEERING INC., 2002)

SOURCE: Geocon Incorporated, 2014

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ID	YEAR	FIRE NAME	ACRES
1	1937		87.26
2	1937		118.76
3	1938		193.55
4	1941		115.34
5	1953	PUEBLITOS CANYON	1158.27
6	1957	CLANCY	611.57
7	1971		81.80
8	1972		25.74
9	1975		66.73
10	1983	ASSIST #28	679.82
11	1984	GOPHER #3	39.15
12	1985	GOPHER	674.28
13	2005	MISSION	18.94
14	2007	VUELTA	214.81
15	2010	76-2	11.91
16	2014	TOMAHAWK- BASILONE COMPLEX	5365.31
17	2014	PULGAS- BASILONE COMPLEX	15186.10
18	2014	RIVER	167.91
19	2017	LILAC FIRE	4100.00

SOURCE: BASE- ESRI MAPPING SERVICE; FIRE DATA-FRAP 2016; Lilac Fire-SANGIS

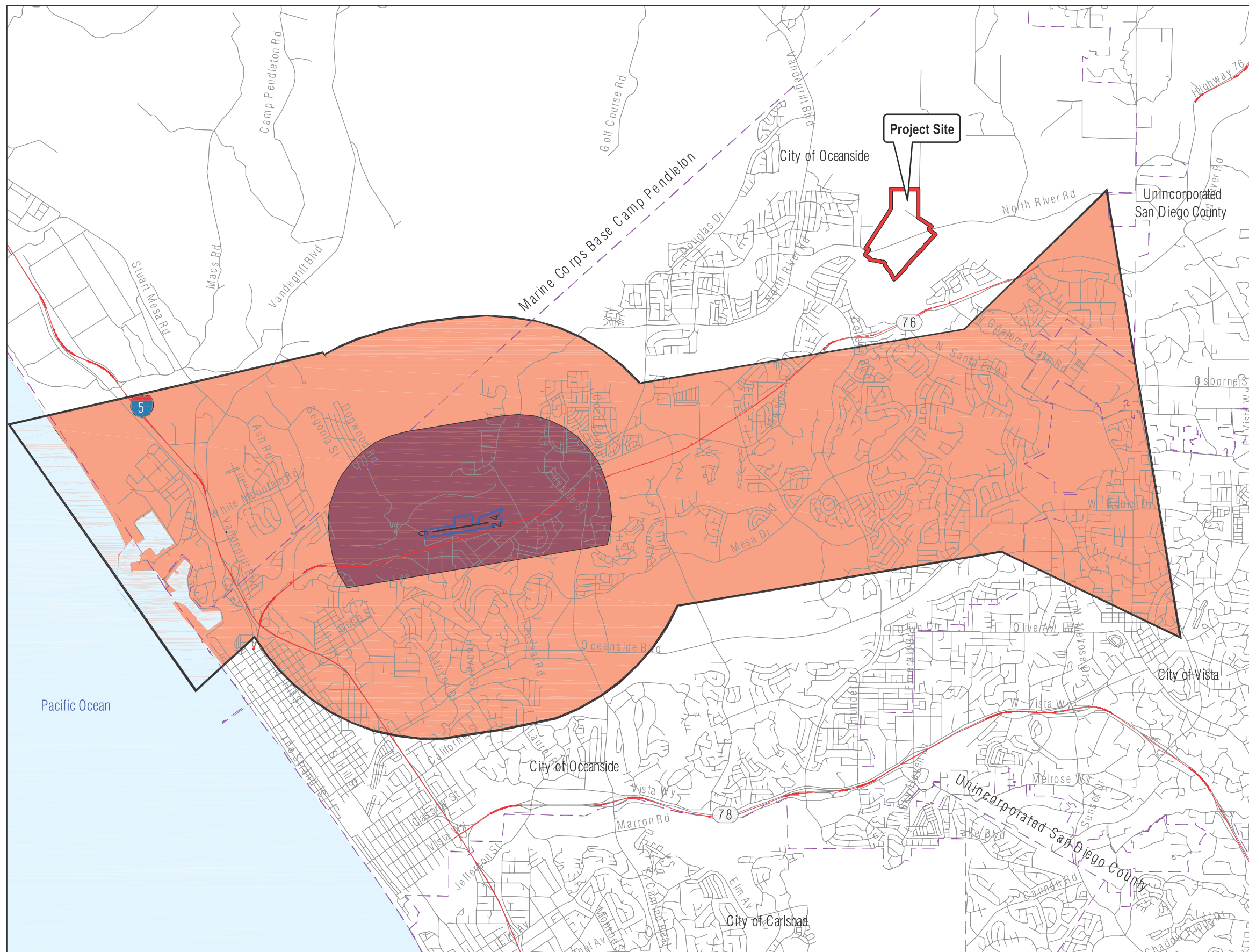


**FIGURE 4.9-2**  
 Project Vicinity Fire History Map  
 North River Farms Planned Development Plan EIR

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AIRPORT LAND USE COMMISSION  
SAN DIEGO COUNTY



LEGEND

- Airport Property Boundary
  - Roads
  - Municipal Boundary
- Airport Influence Area
- Review Area 1
  - Review Area 2



0 5,000 ft.

Note: Real estate disclosure required in the entire Airport Influence Area (see Policy 3.7.2).

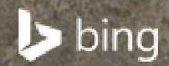
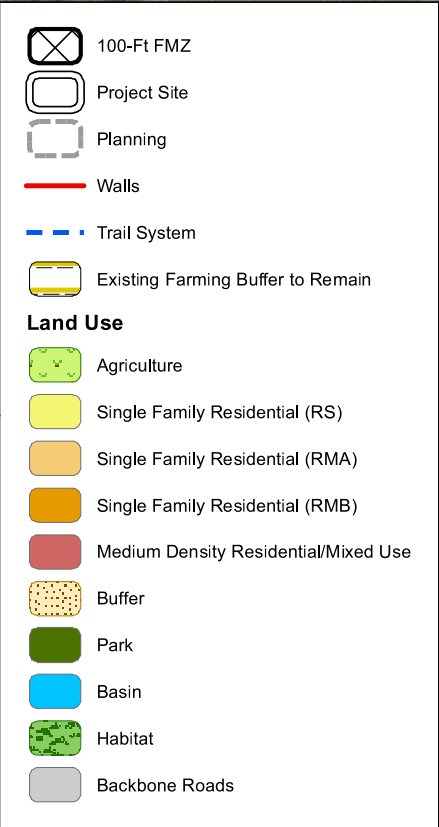
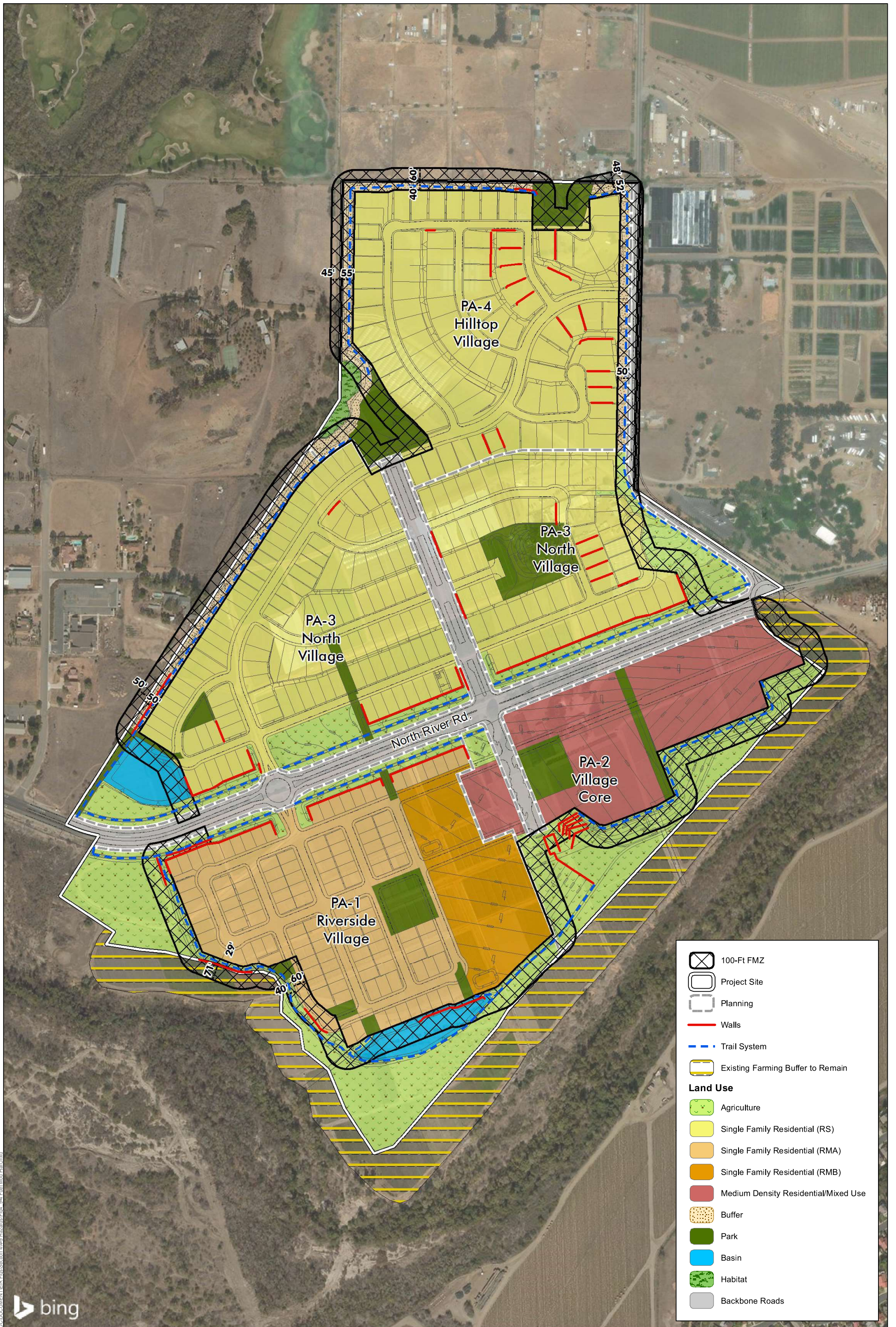
Sources: Roads - San Diego Association of Governments (SANDAG), 2008; Airport Influence Area - Mead & Hunt, Inc., 2008.

Prepared by: Ricondo & Associates, Inc., October 2009.

SOURCE: Oceanside Municipal Airport Land Use Compatibility Plan, 2010

SOURCE: HUNSAKER AND ASSOCIATES, INC. 2018

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AERIAL SOURCE: BING MAPPING SERVICE; SITE PLAN - HUNSAKER 2018



**FIGURE 4.9-4**  
Conceptual Fuel Modification Plan

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