Initial Study/Mitigated Negative Declaration
PP-22-0220

Talbert Regional Park Master Plan

APRIL 2026

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
Park	Talbert Regional Park (and Project Site)
Restoration Plan	Talbert Regional Park Final Habitat Restoration Plan
MND	Mitigated Negative Declaration
CEQA	California Environmental Quality Act
proposed project	Talbert Regional Park Master Plan Project
ADA	Americans with Disabilities Act
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
AQMP	Air Quality Management Plan
CAAQS	California Ambient Air Quality Standards
NAAQS	National Ambient Air Quality Standards
GHG	greenhouse gas
SCAG	Southern California Association of Governments
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
CARB	California Air Resources Board
Caltrans	California Department of Transportation
VMT	vehicle miles traveled
O_3	ozone
NO_2	nitrogen dioxide
CO	carbon monoxide
VOC	volatile organic compound
PM_{10}	coarse particulate matter
$PM_{2.5}$	fine particulate matter
PRC	Public Resources Code
NO_x	oxides of nitrogen
SO_x	sulfur oxides
CalEEMod	California Emissions Estimator Model
LST	localized significance threshold
LOS	level of service
TACs	Toxic air contaminants
DPM	diesel particulate matter
PDFs	project design features
CRPR	California Rare Plant Ranking
CDFW	California Department of Fish and Wildlife
USFWS	U.S. Fish and Wildlife Service
NCCP/HCP	Natural Communities Conservation Plan/Habitat Conservation Plan
Master Plan	Talbert Regional Park Master Plan

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1 Introduction

1. **Project title:**

   Talbert Regional Park Master Plan

2. **Project location:**

   Talbert Regional Park
   1298 Victoria Street
   Costa Mesa, California 92627

3. **Lead Agency Contact and phone number:**

   Orange County Department of Public Works (OCPW)
   601 North Ross Street
   Santa Ana, California 92701
   Cindy Salazar, Planning Division Manager
   714-667-8870
   Cindy.Salazar@ocpw.ocgov.com

4. **Project sponsor's name and address:**

   Orange County Parks (OC Parks)
   Sheila Cedervall ASLA, LEED AP
   949.585.6442
   Sheila.Cedervall@ocparks.com

   601 North Ross Street
   Santa Ana, California 92701

5. **General plan designation:**

   Public/Institutional

6. **Zoning:**

   Institutional & Recreational (I&R)

7. **Description of project. (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary):**

   The 2025 Talbert Regional Park Master Plan document encapsulates the long-term vision for the Park with an emphasis on resiliency, safety, and accessibility. The Master Plan also functions as a Resource Management Plan, providing goals and strategies to guide decisions regarding future policy, land use, and on-going decisions. Design concepts for the Park have evolved through a collaborative process with the

regulatory agencies and members of the public residing in communities surrounding the Park. The proposed key improvement areas are the Nature Center, Balboa Boulevard Entrance and minor Infrastructure Improvements. Please refer to Chapter 3 for the Project Description.

8. Surrounding land uses and setting (Briefly describe the project's surroundings):

The North Talbert parcel is bound to the north and east by the City of Costa Mesa's Fairview Park, to the west by the Santa Ana River, and the south by Victoria Street. The Fairview Channel bisects the northernmost portion of the Park. South Talbert is bounded to the north by Victoria Street, to the east by Balboa Street, to the west by the Santa Ana River, and to the south by the Randall Preserve property. The City of Costa Mesa operates three adjacent facilities: Canyon Park, Vista Park, and Fairview Park. Canyon Park is east of South Talbert, adjacent to a residential area situated atop a mesa, an area historically used as a landfill site. Vista Park is adjacent to Victoria Street at the southern tip of North Talbert.

9. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):

See Table 1-1.

Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

On October 9, 2019, Dudek (on behalf of OC Parks) requested a Sacred Land File search from the NAHC (Appendix C). On October 23, 2019, the NAHC responded to the request indicating the result of the Sacred Land File search was positive and suggested OC Parks contact 17 tribes that may have interest in or knowledge of tribal cultural resources in the proposed project Area. These tribes or tribal representatives include the Agua Caliente Band of Cahuilla Indians, the Juaneño Band of Mission Indians, the Juaneño Band of Mission Indians Acjechemen Nation (two representatives), Juaneño Band of Mission Indians, the Gabrieleno Band of Mission Indians – Kizh Nation, the Gabrieleno/Tongva San Gabriel Band of Mission Indians, the La Jolla Band of Luiseno Indians, the Gabrielino Tongva Indians of California Tribal Council, the Pala Band of Mission Indians, the Pechanga Band of Luiseno Indians, the Rincon Band of Luiseno Indians (two representatives), the San Luis Rey Band of Mission Indians, the Soboba Band of Luiseno Indians, and the Pauma Band of Luiseno Indians. OC Parks led the AB 52 efforts and led consultation with these tribes.

On December 7, 2022, the County sent 4 letters to tribes who have requested to be notified of projects initiated by the County. The contacts did not respond, except for the Gabrieleno Band of Mission Indians – Kizh Nation (Kizh Nation), who requested further consultation. A consultation teleconference call occurred between the Kizh Nation and the County on February 21, 2023. Consultation resulted in the inclusion of standard condition measure TRC-1 for the Project. See Section 4.18, Tribal Cultural Resources, below.

2 Environmental Determination

Environmental Factors Potentially Affected

This document incorporates the Environmental Checklist Form from Appendix G of the CEQA Guidelines. The environmental factors listed below are evaluated in this document. Environmental factors that are checked contain at least one impact has been determined to be a "Potentially Significant Impact." Environmental factors unchecked indicate that impacts were determined to have resulted in no impacts, less than significant impacts, or less than significant impacts with mitigation measures, regulatory requirements, or County Standard Conditions of Approval incorporated into the Project.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☐ Geology and Soils	☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☐ Hydrology and Water Quality	☐ Land Use and Planning	☐ Mineral Resources
☐ Noise	☐ Population and Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☐ Utilities and Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

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Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

DocuSigned by:
Virginia Gomez
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Signature

5/4/2026 | 11:16 AM PDT

Date

3 Project Description

3.1 Project Overview

Talbert Regional Park (Park) is an open space area owned and operated by the County of Orange (County) as a part of the OC Parks' 60,000-acre system. The Park is located in the western portion of the City of Costa Mesa along the Santa Ana River. The 182-acre property consists of two areas divided horizontally by Victoria Street, and serves the cities of Huntington Beach, Costa Mesa, and Newport Beach. The 92.5 acres north of Victoria Street is known as North Talbert, while the 88.5 acres south of Victoria Street is known as South Talbert.

OC Parks completed the Talbert Regional Park Final Habitat Restoration Plan (Restoration Plan) in December 2015, which calls for natural preservation of native habitat through non-native plant removal, habitat restoration, and public use within identified interest areas (Victoria Pond and Sheephills Bicycle [BMX] area). Key components of the plan include removal of non-native plant species to encourage restoration of riparian woodland and mulefat scrub areas within South Talbert, and the southeast border area of North Talbert referred to as Placentia Drain. Three alternatives (minimal, medium, and maximum touch) for on-going improvements were presented. The proposed improvements outlined in the 2025 Master Plan primarily follow the medium touch plan, with the inclusion of additional elements from the other alternatives. The proposed project encompasses implementation of the Master Plan document and the key improvements presented therein for the existing Park.

OC Parks held public workshops and completed updates to the Master Plan in Winter, Spring, and Summer 2025. The 2025 Talbert Regional Park Master Plan document encapsulates the long-term vision for the Park with an emphasis on resiliency, safety, and accessibility. The Master Plan also functions as a Resource Management Plan, providing goals and strategies to guide decisions regarding future policy, land use, and on-going decisions. Public and stakeholder input guided the planning process, and alternative solutions were presented for public review. During preparation of the Master Plan, technical studies and biological surveys were completed and coordinated with OC Parks staff. Orange County Public Works (OCPW), on behalf of the County of Orange, is the lead agency pursuant to the California Environmental Quality Act (CEQA) responsible for the review and approval of the Talbert Regional Park Master Plan Project's Initial Study/Mitigated Negative Declaration (IS/MND).

3.2 Project Location

The Park is located in the western portion of the City of Costa Mesa along the eastern bank of the Santa Ana River, in western Orange County, California (Figure 1, Project Location). Regional access is provided via State Route (SR) 55 and Interstate (I) 405. Nearby cities include Huntington Beach, Fountain Valley, Santa Ana, Irvine, and Newport Beach, as well as a portion of unincorporated Orange County. The 182-acre property consists of two areas (North Talbert and South Talbert) divided horizontally by Victoria Street, and the Park serves the cities of Huntington Beach, Costa Mesa, and Newport Beach.

The North Talbert parcel (North Talbert; 92.5 acres) is bound to the north and east by the City of Costa Mesa's Fairview Park, to the west by the Santa Ana River, and the south by Victoria Street. The Fairview Channel bisects the northernmost portion of the Park. The South Talbert parcel (South Talbert; 88.5 acres) is bound to the north by Victoria Street, to the east by Balboa Street, to the west by the Santa Ana River, and to the south by the Randall Preserve. The City of Costa Mesa operates three adjacent facilities: Canyon Park, Vista Park, and Fairview Park. Canyon Park is east of South Talbert, adjacent to a residential area situated atop a mesa. Vista Park is adjacent to Victoria Street at the southern tip of North Talbert.

The entire Park is located within the Central and Coastal Subregion of the Natural Community Conservation Plan/ Habitat Conservation Plan. South Talbert lies within the California State Coastal Zone and improvements are subject to review by the California Coastal Commission (North Talbert is outside of the Coastal Zone).

3.3 Environmental Setting

The Park is designated as Public/Institutional in the City of Costa Mesa General Plan Land Use map and is zoned as Institutional & Recreational (I&R) (City of Costa Mesa 2016a; 2016b). The County's General Plan (County GP) Land Use Element Map does not designate use(s) for the Park as it is located outside of the County's delineated Sphere of Influence boundary (County of Orange 2015). Despite the lack of County land use designation, the Park is identified as an Existing Regional Park in the County's Master Plan of Regional Recreational Facilities (County of Orange 2012).

The Park contains salt marsh and wetland habitat impacted by nonnative and invasive plant species. Offering both passive and active recreation, the Park is used predominantly by hikers and joggers, nature watchers, casual bicyclists, and motocross bicyclists. North Talbert features a large grassy area, picnic areas, an equestrian corral and watering station, and restroom facilities. The trail system winding throughout North and South Talbert allows for observation of natural resources and linkage to other parks upstream and downstream along the Santa Ana River. Group use within the habitat areas is permitted, consisting of guided nature walks; individual use is facilitated by interpretive signage. The primary feature at South Talbert is Victoria Pond, a scenic natural resource visible from Victoria Avenue. The water body was expanded to the south in 1991 as a mitigation measure during construction of the Greenville-Banning Channel. A hydrographic survey conducted in 2014 found the maximum pond depth to be approximately 7.4 feet.

Currently, no on-site parking is available for Park visitors. Parking for two City of Costa Mesa-owned parks, Fairview Park and Vista Park, is available on foot near North Talbert along Placentia Avenue. Limited street parking is available for South Talbert along Balboa Boulevard at the western terminus of West 19th Street. Both North and South Talbert offer extensive public trail networks. Trails can be accessed by traversing through Fairview Park or Vista Park, and from Arbor Street by traversing through Canyon Park to South Talbert. Trails can also be accessed from Victoria Street or via the Santa Ana River Trail Footbridge connecting to the Banning Channel Bikeway. North Talbert trails consist of a mixture of decomposed granite near the grassy public use area, transitioning to dirt to the south, and asphalt to the north. South Talbert trails consist predominantly of natural earthen loamy soil that becomes slick when wet and is prone to collect water during the rainy season.

The only connection between North and South Talbert is provided by the Banning Channel Bikeway, which passes under Victoria Street. A paved mixed-use trail atop the Santa Ana River flood control levee, the Bikeway is frequently used by pedestrians, joggers, and bicyclists. Other off-site pedestrian connections include a stairway within Fairview Park adjacent to the northeastern boundary in North Talbert. Canyon Park also includes a trail connection to South Talbert on the far side of Balboa Street.

While existing topography within the Park is generally flat, the inclusion of sloped terrain in North Talbert provides for a moderate range of onsite terrain. Specifically, within the Park, above sea level elevations range from approximately 62 feet within North Talbert to 8 feet within South Talbert. Bluffs rise approximately 80 feet above the Park along its northern and eastern boundaries. Notable topographic features within North Talbert include Placentia Drain, a linear channel at the base of the eastern bluffs providing drainage for Fairview Park as well as Talbert. South Talbert includes Victoria Pond, and an internal BMX skill area referred to as "Sheephills". A portion of the lower Greenville-Banning Channel crosses within the site boundary, and upland mesas are included along the southeastern boundary.

Figure 2, Existing Conditions: Talbert Regional Park, includes photographs of several locations within the Park's boundary and highlights existing trails and vegetation, "Sheephills", and Victoria Pond.

3.4 Project Characteristics

3.4.1 Proposed Project

The proposed project is a Master Plan document intended to guide the future improvement and maintenance of the Park. The proposed project includes access improvements, infrastructure improvements, and habitat restoration as shown in Figure 3: Proposed Improvements. Described below are the proposed key improvements envisioned as part of the Talbert Regional Park Master Plan.

Proposed Key Improvements

Design concepts for the Park have evolved through a collaborative process with regulatory agencies and members of the public residing in communities surrounding the Park. The proposed improvements are designed to be compatible with the surrounding context and provide a higher degree of function as well as recreational opportunities. The proposed key improvements are:

- Nature Center
- Balboa Boulevard Entrance Improvements
- Infrastructure Improvements

Details regarding each of the proposed improvements are provided below.

Nature Center

A new Nature Center is proposed within the northeastern corner of the North Talbert parcel at the location of the existing restrooms. The existing restrooms are provided in a small, circular building (approximately 250 square feet in size) located on a concrete slab/foundation and constructed of concrete masonry blocks. The Nature Center building would be approximately 500 square feet in size and would be constructed of concrete with a stucco finish and metal roof with a low-reflectivity finish. The Nature Center may include a small classroom area, restrooms, and interpretive signage to serve as an educational center for park visitors.

Balboa Boulevard Entrance Improvements

Improvement of the existing Balboa Boulevard entrance would accommodate emergency and maintenance vehicles, bikes, and pedestrians. As proposed, the existing railroad-tie stairs providing park access would be retained and repaired, and a new a 20-foot-wide ADA-accessible ramp would be located to the south of the railroad-tie stairs to accommodate emergency vehicle access. See Figure 4: Balboa Boulevard Entrance Plan. As proposed, the ramp would be constructed of compacted natural soil with decomposed granite and would be firm, stable, and slip-resistant (surface to be installed will be specified during the preparation of construction-level documents for the ramp and Balboa Boulevard entrance improvements). A gate and a rolled curb opening area are proposed at the ramp entrance off Balboa Boulevard. Approximately 42,000 cubic yards of fill would be required for the proposed entry ramp, offsite Banning Channel Bikeway connection, and improvement of existing and proposed trails in South Talbert. Partial or full lane closures on Balboa Boulevard are not expected to be needed during construction of the proposed entrance improvements.

Signage:

A monument pedestrian arrival sign would be installed off Balboa Boulevard near the proposed access ramp, and a wayfinding signage would also be installed within the park (near the existing railroad tie stairs and near the lower elevation end of proposed access ramp) to direct visitors to the Park and to enhance safety.

Proposed Infrastructure Improvements

Enhancements of the interior circulation system is proposed to provide improved multi-modal trails to enhance user experience. Proposed improvements to existing access, trails, maintenance yard, and wayfinding systems are described below.

Trail Improvements

The bike and pedestrian trail system constitutes the primary visitor activity within the Park. The South Talbert pedestrian circulation route is to be improved as a raised, 15-foot-wide trail system. This improvement would entail raising the existing trail system up to 18 inches from its current elevation and would correct the existing drainage and ponding problem by reducing the occurrence of seasonal wet areas. This portion of the trail improvements are approximately 8,350 feet in length (see Figure 5, Conceptual Trail Segments). Additionally, a new 4-foot-wide, 200-foot long, single-track trail (not raised) in North Talbert and a new, 15-foot wide, 2,020-foot-long trail (raised) in South Talbert are proposed to enhance connections within the existing network by providing direct access to the existing Victoria Pond and the Banning Channel Bikeway. A new access ramp connecting the new, east-west trail in South Talbert to the Banning Channel Bikeway would also be constructed within the adjacent property owned by OC Flood Control. This enhanced system would also accommodate requirements for both ADA and emergency access.

Please refer to Figure 3 for depiction of the existing and proposed trail system.

Maintenance Yard

Proposed improvements to the existing maintenance yard located in North Talbert consist of extending electrical service, as well as installing durable security fencing, a security camera, and lighting. The existing maintenance yard area consists of two mostly fenced areas (and associated storage trailers (shipping containers)) totaling approximately 4,750 square feet and surrounding disturbed and unvegetated lands. Electrical service would be extended from an existing buried line serving the existing restrooms located in the northeastern corner of the North Talbert parcel. Trenching for electrical service between the restrooms building and the maintenance yard would occur within existing roads/areas of linear disturbance. During operations, lighting installed at the maintenance yard would only be turned on when needed by OC Parks staff or other authorized County personnel.

Wayfinding

Wayfinding signage would be installed throughout the Park to announce arrival, strengthen branding identity as a part of the OC Parks system, and provide clear directional navigation for visitors. Proposed signage types include Arrival Signs, Directional Signs, Interpretive Signs, and Trail Markers. See Figure 6, Conceptual Wayfinding Plan, for conceptual location and type of wayfinding signage to be installed. Wayfinding signage would be installed via post/pole footings into small concrete foundations.

Habitat Restoration

The Park functions as a protected nature area within the urban fabric and is home to wildlife species that are dependent on the health of the larger ecosystem. The Master Plan calls for continuation of existing, permitted restoration practices including the removal of non-native vegetation throughout South Talbert, and at the Placentia Drain within North Talbert. Planting of native coastal sage and riparian tree species is planned within South Talbert to expand the existing mitigation/restoration areas. The Restoration Plan includes non-native plant removal and vegetation thinning both of which are described in more detail below.

Non-Native Plant Removal

Throughout the Park, removal of non-native vegetation is to be conducted on an on-going basis. Specifically, exotic tree species including Brazilian Pepper and Myoporum are to be removed in the area directly south of Victoria Pond. These trees are to be replaced by native vegetation, and the removal would create open areas where expansion of native habitat would be promoted.

Vegetative Thinning

Thinning of dense shrubs in selected areas is proposed to discourage reinstatement of the unauthorized encampments that have existed within the Park.

Project Design Features:

Several applicant-proposed project design features (PDFs) will be employed during implementation of the proposed project to avoid and minimize potential direct and indirect effects of construction on the study area. These PDFs include regulatory requirements and elements incorporated into the Master Plan development procedure to ensure compatibility with natural resource conservation goals.

- **PDF BIO-1.** Sediment and erosion control measures would be developed and implemented in accordance with RWQCB Construction General Permit requirements to reduce the potential for the project to result in increased siltation of, or release of pollutants into creeks and their tributaries. Best management practice (BMP) categories employed would include erosion control, sediment control, and non-stormwater good housekeeping.
- **PDF BIO-2.** The footprint of disturbance would be limited to the maximum extent feasible, such as limiting access to via pre-existing access routes to the greatest extent possible. Parking, staging, storage, excavation, and disposal site locations would be confined to the smallest areas possible and be positioned in previously disturbed areas to the greatest extent practical.
- **PDF BIO-3.** To reduce fugitive dust resulting from project construction and to minimize adverse air quality impacts, the project would employ dust control measures in accordance with the Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction
- **PDF BIO-4.** To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 2 feet deep would be covered with tarp, plywood, or similar materials at the close of each working day to prevent animals from being trapped. Ramps may be constructed of earth filled or wooden planks within deep-walled trenches to allow animals to escape. Before such holes or trenches are backfilled, they would be thoroughly inspected for trapped animals. If trapped animals are observed, escape ramps or structures would be installed immediately to allow escape. If the trapped animal is injured and cannot use escape ramps or structures, a qualified biologist would be contacted to identify the appropriate next steps.

- **PDF BIO-5.** All construction pipes, culverts, and similar structures that are stored at the construction site for one or more overnight periods would be thoroughly inspected for burrowing owls and nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved. An option is to cap the ends of any stored pipes to prevent any animals from entering. If an animal is discovered inside a pipe, that section of pipe would not be moved until the project biologist or designated representative has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated out of harm's way by an approved biologist.
- **PDF BIO-6.** The project will include a Habitat Restoration Plan which will guide the restoration activities for the project and will detail the proposed methods of restoration, including application type and planting palette. Additionally, the plan will include performance standards to assess the success of the project compared to baseline conditions and inform adaptive management. The Habitat Restoration Plan will be approved by the resource agencies to ensure compliance with allowed uses within the Central–Coastal Subregion NCCP/HCP Reserve and maintenance/improvement of habitat function for covered species.
- **PDF BIO-7.** No invasive non-native plant species shall be planted, seeded, or otherwise introduced as part of the project. Plant material shall be native species appropriate to the site. A qualified biologist shall review landscape plans before approval.
- **PDF BIO-8.** Equipment would be cleaned prior to transport to the Park to prevent potential non-native plant species and other foreign matter, such as sediment and debris, from entering the site.

3.4.2 Proposed Construction

Construction of the proposed improvements would include site preparation (including installation of temporary fencing), vegetation removal, grading, trenching for extension of utilities, and construction of the Nature Center. Construction is anticipated to begin September 2027 and end in March 2028, for an approximated construction duration of up to 7 months. The total number of construction workers within the Park would vary by phase; however, excluding haul truck activity, the anticipated maximum number of workers on a daily basis is approximately 15. While active areas of construction would be temporarily closed for public use, the remainder of the Park would remain open construction.

Construction phasing is anticipated as follows:

- Site preparation (overall site; 15 days)
- Grading (45 days; includes grading for new trails and connection to Banning Channel Bikeway)
- Trenching (30 days)
- Construction (60 days): Balboa Boulevard Entrance Plan
- Construction (90 days); Nature Center

Site clearing and rough grading would occur during the site preparation phase. Grading would require 42,000 cubic yards of fill, all of which would be imported. The maximum depth of disturbance for utility trenching would be approximately 18-24 inches. A summary of the anticipated construction equipment, quantity of equipment, hours of operation of the equipment, and worker, vendor, and haul trips per phase is included in Table 2-1.

Table 3-1. Anticipated Construction Scenario

Construction Phase	Worker Round-Trips per Day	Vendor Truck Round-Trips per Day	Total Haul Truck Trips	Equipment	Quantity	Hours/ Day
Site preparation (overall site) (15 days)	16	4	0	Graders	1	8
				Tractors/loaders/backhoes	1	7
				Scrapers	1	8
Grading (45 days)	20	4	25	Rubber-tired dozers	1	8
				Tractors/loaders/backhoes	2	7
				Graders	1	8
Trenching (maintenance yard electricity connection; 30 days)	16	4	0	Plate compactors	1	8
				Tractors/loaders/backhoes	1	8
				Trenchers	1	8
Construction (Nature Center; 90 days)	20	10	0	Rubber-tired dozers	1	8
				Tractors/loaders/backhoes	2	7
				Graders	1	8
Construction (Balboa Boulevard Access Improvements) (60 days)	20	10	0	Rubber-tired dozers	1	8
				Tractors/loaders/backhoes	2	7
				Graders	1	8

Note: Water trucks were not modeled as equipment in the construction models; instead, they were modeled as vendor trips in the site preparation, grading, and trenching phases.

3.4.3 Proposed Operation

The Park would continue to operate from 7:00 a.m. to sunset, Sunday through Saturday. A new, locked gate is proposed at the Balboa Boulevard Entrance Ramp; however, perimeter fencing is not proposed around the Park. As such, and similar to existing conditions, access to the Park will remain open. The existing maintenance yard is to be secured through installation of new and durable fencing.

Similar to the existing condition, access would be available at South Talbert through two access points located on Balboa Boulevard and Victoria Street. The proposed Balboa Boulevard Entrance Ramp would essentially replace the existing gated access point located off Balboa Boulevard and approximately 220 feet south of Discovery Street. See Figure 4. There are three existing access points along the Banning Channel Bikeway, and the Master Plan proposes an additional connection to the Banning Channel Bikeway at the western end of a proposed east-west trail (See Figure 4). Access to North Talbert would be available through Fairview Park, Vista Park, and Victoria Street. There are several access points along the Banning Channel Bikeway including one access point from the Santa Ana River Trail Footbridge.

Emergency access would be available in South Talbert from Balboa Boulevard via a proposed entrance ramp. Helispots are currently located in two areas in South Talbert and would be maintained as part of the proposed project.

The Park would continue to be staffed with one employee during the entirety of the Park's hours of operation, who would monitor visitor activities, conduct repairs, and collect trash. Maintenance of the Park would involve occasional trail maintenance and repairs of facilities. Trail maintenance would involve trimming back vegetation, and spot re-grading. Consistent with existing practices, trail maintenance would occur throughout the year, by the existing on-site Park staff member with the use of handheld tools and a stake bed truck.

The following maintenance activities are currently being implemented throughout the Park and would continue to be implemented as part of the project:

- **Routine Trail Maintenance:** Allowing trails to dry properly after a significant storm event is necessary to ensure trails stay in good condition. Trails used by hikers and bikers should be temporarily closed and monitored until conditions such as mud and ponding are reduced. General trail use should be monitored periodically to identify overuse and potential impacts to sensitive species or habitat.
- **Cyclical Trail Maintenance:** Trail drainage maintenance and brushing is to be performed on a recurring basis; regularly scheduled tasks are to be scheduled through OC Parks Computerized Maintenance Management System and assigned to Park staff. Trail deficiencies are identified through scheduled inspections, then work orders are routed to in-house or contracted resources.
  - Trails are trimmed of encroaching vegetation on an as needed basis. All trails are cleared, and trail structures such as bridges, culverts, and causeways are inspected as needed.
  - Construction, re-construction, re-engineering, and restoration activities are to be performed on a periodic basis as necessary to address road and trail infrastructure deterioration due to age or need to meet current standards.
- **Incident-Related/One Time Repair:** Construction, re-construction, re-engineering, re-design, demolition, and restoration activities may be performed on a project basis to address road and trail infrastructure damage caused by poor design, natural or man-made events such as a major storm, wildfire, dam water release, or vandalism.

3.5 List of Discretionary Actions

Table 3-2 provides a summary of public agency approvals and recommendations that are associated with the project.

Table 3-2. Public Agency Approvals

Entity	Action
U.S. Fish and Wildlife Service	Section 7 Informal/Formal Consultation
U.S. Army Corps of Engineers	Section 404 Nationwide Permit
California Department of Fish and Wildlife	Section 1602 Streambed Alteration Agreement
Santa Ana Regional Water Quality Control Board	Section 401 Water Quality Certification National Pollutant Discharge Elimination System Permit
South Coast Air Quality Management District	Permit to Construct
County of Orange Board of Supervisors	Adoption of Mitigated Negative Declaration (MND) Approval of project

4 Environmental Evaluation

Evaluation of Environmental Impacts

The Lead Agency shall conduct an Initial Study to determine if the proposed project may have a significant effect on the environment. All phases of project planning, implementation, and operation must be considered in the Initial Study of the project. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

4.1 Aesthetics

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
I.	**AESTHETICS** – Except as provided in Public Resources Code Section 21099, would the project**:**				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

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

Less-than-Significant Impact. Scenic vistas generally refer to views of expansive open space areas or other natural features, such as mountains, undeveloped hillsides, large natural water bodies, or coastlines. Certain urban settings or features, such as a striking or renowned skyline, may also represent a scenic vista. Scenic vistas generally refer to views that are accessible from public vantage points, such as public roadways and parks. The City of Costa Mesa's General Plan Conservation Element does not designate scenic vistas or identify specific scenic resources within the City. While the Park is owned and operated by the County of Orange, the County GP Land Use Element Map does not designate use(s) for the Park as it is located outside of the County's delineated Sphere of Influence boundary (County of Orange 2015).

The proposed project is a Master Plan document that includes access improvements, infrastructure improvements, and habitat restoration as shown in Figure 3: Proposed project construction would result in temporary visual changes to affected portions of the Park, including the presence of filled areas associated with proposed access ramps and elevated trails, demolition of the existing restrooms and construction of the nature center, materials staging, and construction equipment. Upon completion of construction, these temporary visual changes would cease.

Once operational, the visual quality of the Park would resume similar to existing conditions, with minor improvements such as the proposed Nature Center, proposed Balboa Boulevard Entrance Plan, and new and improved trails. The Nature Center would be approximately twice the size of the existing bathrooms, with a stucco finish and metal roof, and would serve as an update and replacement to the existing bathrooms made of concrete masonry blocks. The proposed Balboa Boulevard Entrance Plan includes the addition of a 21-foot-wide ramp, gate, rolled curb, and wayfinding to enhance safety and guide visitors. The proposed infrastructure improvements include enhancements to the Park's interior circulation system with raised multi-modal trails to improve drainage and connectivity, upgraded maintenance yard infrastructure, and comprehensive wayfinding signage to improve user experience and accessibility. Habitat restoration efforts, similar to existing conditions, would continue to focus on removing non-native vegetation and thinning dense shrubs to support native ecosystems and improve public safety. The Nature Center, Balboa Boulevard Entrance Plan, and infrastructure improvements are designed to enhance existing infrastructure within the Park's developed areas without obstructing or substantially altering natural viewsheds. As such, impacts would be **less than significant,** and no project specific mitigation is required.

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

No Impact. There are no designated state scenic highways in the vicinity of the Park. The nearest eligible scenic highway is the SR 1 segment from I-5 near San Juan Capistrano to SR 19 near Long Beach, which traverses the coastline approximately 1 mile to the south of the Park at its closest point (Caltrans 2025). Due to the presence of intervening development and vegetation, the Park is not visible from SR-1 and as such, equipment and staging activities associated with construction of the proposed project would not be within the viewshed of motorists on SR-1. Similarly, once construction is completed, proposed project components within the Park boundaries would not be visible to SR-1 motorists located along the coast. **No impact** would occur**,** and no project specific mitigation is required.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less-than-Significant Impact. Per PRC Section 21071, an "urbanized area" is defined as "(a) An incorporated city that meets either of the following criteria: (1) Has a population of at least 100,000 persons. [or] (2) Has a population of less than 100,000 persons if the population of that city and not more than two contiguous incorporated cities combined equals at least 100,000 persons." The Park is located in the incorporated City of Costa Mesa, that had an estimated January 1, 2025, population of 110,321 persons (California Department of Finance 2025). By definition, the proposed project is located in an urbanized area. Therefore, the project's potential impacts to existing visual character or quality are assessed through consideration of potential conflicts with zoning or other regulations governing scenic quality.

Table 4.1-1, Consistency Analysis with Applicable Scenic Quality Regulations, identifies applicable scenic quality regulations from the City's Zoning Ordinance and General Plan and presents an analysis of consistency with regard to the Project/Master Plan.

Table 4.1-1 Consistency Analysis with Applicable Scenic Quality Regulations

Policy/Regulation	Consistency Analysis
City of Costa Mesa Zoning Ordinance	
Talbert Regional Park is zoned for Institutional and Recreation Use	**Consistent.** The proposed project would include the implementation of Park improvements (e.g., new and elevated trails, construction of a nature center, new emergency vehicle access ramp off Balboa Boulevard and connecting access ramp to the nearby Banning Channel Bikeway) and habitat restoration, which would not change the overall use of Talbert Regional Park, and would continue to provide recreational opportunities.
City of Costa Mesa General Plan	
Land Use Element	
Policy LU-2.7 Permit the construction of buildings over two stories or 30 feet only when it can be shown that the construction of such structures will not adversely impact surrounding developments and deprive existing land uses of adequate light, air, privacy, and solar access.	**Consistent.** The proposed Nature Center would be a single-story structure that is approximately 500 square feet in size, replacing an existing restroom building. The building's low-profile and location within an existing disturbed area of Talbert Regional Park that is situated approximately 0.25 miles from the nearest residential structure/development ensures that it would not adversely impact surrounding developments or deprive adjacent uses of light, air, privacy, or solar access.
Policy LU-2.8 Limit building height to four stories above grade south of the I-405 Freeway, except for special purpose housing such as elderly, affordable, or student housing, unless otherwise approved by a General Plan amendment. (A four-story/five-level parking structure with roof deck parking on the fifth level is considered a four-story structure.)	**Consistent.** The Park is located south of the I-405 Freeway. The proposed Nature Center would be below the four-story height limit and designed to be compatible with the surrounding park environment.
Goal LU-3: Development that Maintains Neighborhood Integrity and Character	**Consistent.** See response to Policy LU-2.7, above. In addition, the proposed project would include the implementation of Park improvements, none of which would potentially impact or degrade existing integrity or character of neighborhoods in the surrounding area.
Policy LU-3.8 Ensure that new development reflects existing design standards, qualities, and features that are in context with nearby development and surrounding residential neighborhoods.	**Consistent.** The proposed improvements reflect the existing natural and recreational character of Talbert Regional Park and are compatible with the existing park context, features, and nearby residential areas.
Policy LU-3.10 Minimize effects of new development on the privacy and character of surrounding neighborhoods.	**Consistent**. The proposed improvements are confined to existing park lands and do not introduce new uses or structures that would affect the privacy or character of surrounding neighborhoods.

Table 4.1-1 Consistency Analysis with Applicable Scenic Quality Regulations

Policy/Regulation	Consistency Analysis
Policy LU-3.13 Prohibit construction of buildings which would present a hazard to air navigation, as determined by the Federal Aviation Administration (FAA).	**Consistent.** The proposed Nature Center building would be located on the site of the existing park restroom building (the restrooms would be demolished to accommodate the new Nature Center which would include restrooms). The new structure would feature a metallic roof with a low reflectivity finish to minimize potential for glare. Based on the location of the structure, the small footprint of the 500 square foot building and the use of a low reflectivity finish, the structure would not present a hazard to air navigation.
Goal LU-4: New Development that Is Sensitive to Costa Mesa's Environmental Resources	**Consistent.** The proposed project would include the implementation of Park improvements (e.g., new and elevated trails, construction of a nature center, new emergency vehicle access ramp off Balboa Boulevard and connecting access ramp to the nearby Banning Channel Bikeway) and habitat restoration, which would not change the overall use of Talbert Regional Park. The majority of proposed project related impacts would occur in existing areas of linear disturbance and new impacts to sensitive vegetation/areas would be limited to the creation of a proposed east-west trail that would improve in-park recreational opportunities and provide an addition, formal connection through park to the existing Banning Channel Bikeway. The proposed trail would generally follow existing contours (minimizing need for grading) and existing linear disturbances/previously impacted corridors.
Policy LU-4.2 Avoid conversion of areas particularly susceptible to erosion and sediment loss (e.g., steep slopes) and/or establish development guidelines that identifies these areas and protects them from erosion and sediment loss	**Consistent.** The proposed trail improvements are designed to address existing drainage and ponding issues and once constructed, would reduce erosion and sediment loss. Proposed access ramps would formalize and provide for safe entry points into the park from Balboa Boulevard and the Banning Channel Bikeway and appropriate BMPs would be installed to aid in drainage/protect adjacent areas from risk of erosion and sedimentation.
Policy LU-4.4 Promote site development that limits impact on and protects the natural integrity of topography, drainage systems, and water bodies, and protect the integrity of the bluff crest.	**Consistent.** The proposed project would include raised trails (18 inches raised) to improve drainage and protect natural topography. No grading or development would occur near bluff crests. Proposed access ramps would formalize and provide for safe entry points into the park from Balboa Boulevard and the Banning Channel Bikeway and appropriate BMPs would be installed to aid drainage/protect adjacent areas from risk of erosion and sedimentation.

Table 4.1-1 Consistency Analysis with Applicable Scenic Quality Regulations

Policy/Regulation	Consistency Analysis
Policy LU-4.6 Incorporate the principles of sustainability into land use planning, infrastructure, and development processes to reduce greenhouse gas emissions consistent with State goals.	**Consistent.** The proposed project would include the implementation of Park improvements (e.g., new and elevated trails, construction of a nature center, new emergency vehicle access ramp off Balboa Boulevard and connecting access ramp to the nearby Banning Channel Bikeway) and habitat restoration, which would not change the overall use of Talbert Regional Park. Proposed project components do not include facilities that would generate substantial greenhouse gas emissions.
Community Design Element	
Policy CD-1.5 Encourage electric and communication lines to be placed underground and electrical substations and telephone facilities to be screened to minimize visual impacts from sidewalks, streets, and adjacent properties. Support utility undergrounding through conditions of project approval, preparation of undergrounding plans, and the formation of assessment districts.	**Consistent.** The proposed extension of electrical power from the existing restroom building area to the maintenance yard in North Talbert would be done via underground trenching.
Policy CD-1.5 Encourage electric and communication lines to be placed underground and electrical substations and telephone facilities to be screened to minimize visual impacts from sidewalks, streets, and adjacent properties. Support utility undergrounding through conditions of project approval, preparation of undergrounding plans, and the formation of assessment districts.	**Consistent.** Electrical service to the maintenance yard would be extended through underground trenching within existing disturbed areas, minimizing visual impacts and preserving the park's natural appearance.
Policy CD-1.6 Promote linkages between separate districts using bike trails, pedestrian paths, common medians or parkway landscaping, and other location-appropriate physical improvements. Through conditions of approval, public improvement projects, and other measures, support development of new connections and the enhancement of existing connections between districts.	**Consistent.** While the proposed project does not include connections between separate districts, it does include facilities for enhanced park access. Specifically, the proposed Balboa Boulevard access ramp would introduce ADA compliant access from Balboa Boulevard into adjacent South Talbert. In addition, proposed improvements include a new east-west trail that would enhance east-west access through the park and connect to a new access ramp from the existing Banning Channel Bikeway.
Policy CD-5.1 Preserve and optimize natural views and open spaces in Costa Mesa.	**Consistent.** The proposed trail improvements and habitat restoration would enhance and expand access to natural views. The proposed improvements (e.g., new and elevated trails, construction of a nature center, new emergency vehicle access ramp off Balboa Boulevard and connecting access ramp to the nearby Banning Channel Bikeway) and habitat restoration, would not change the overall use of Talbert Regional Park. Thus, existing open space (i.e., Talbert Regional Park) would be preserved.

Table 4.1-1 Consistency Analysis with Applicable Scenic Quality Regulations

Policy/Regulation	Consistency Analysis
Policy CD-5.2 Control the visual impacts of new development on natural views of the coast and the wetlands.	**Consistent.** The proposed project includes a 500 square foot Nature Center that would be located on the developed site of the existing restrooms in North Talbert. The proposed Nature Center structure would have a similar vertical profile as the existing restrooms building and therefore, visual impacts resulting from the new structure would be controlled and minimized. Proposed trail improvements and restoration efforts would maintain and enhance views of nearby wetlands and natural areas. Specifically, the proposed trail in South Talbert would provide more proximate views to wetlands occurring near the trail alignment.
Policy CD-5.3 Develop open space corridors and trails along the edges of Costa Mesa where feasible and connect these trails to existing and potential future trails throughout the City.	**Consistent.** The proposed trail improvements and new access ramps would connect Talbert Regional Park to the Banning Channel Bikeway, enhancing the regional trail network. Further, the proposed ramp off Balboa Boulevard would enhance access into the park and would provide for as-needed emergency vehicle access into the park.
Policy CD-5.4 Continue to preserve natural open space, including restoration of the natural areas of Talbert Regional Park.	**Consistent.** The proposed project would include the continuation of existing habitat restoration in Talbert Regional Park, supporting the long-term preservation of natural open space and visitor access.
Policy CD-7.1 Ensure that new and remodeled structures are designed in architectural styles that reflect the City's eclectic quality yet are compatible in scale and character with existing buildings and the natural surroundings within residential neighborhoods. Continue to update and maintain the Costa Mesa Residential Guidelines.	**Consistent.** The proposed Nature Center would be designed with material and finished that reflect the park's natural surroundings and are compatible with the scale and character of the existing restroom structure and the primary one-story scale of residential development near Talbert Regional Park.
Policy CD-7.3 Ensure that California native plants are used to support the local ecology and save water. Develop landscaping guidelines that reflect the local community.	**Consistent.** As proposed, the Master Plan calls for continuation of existing, permitted restoration practices including the removal of non-native vegetation throughout South Talbert, and at the Placentia Drain within North Talbert. Further, the planting of native coastal sage and riparian tree species is planned within South Talbert to expand the existing mitigation/restoration areas. Lastly, the Master Plan includes a preliminary plant palette focused on appropriate native species for the various habitat areas in Talbert Regional Park.
Open Space and Recreation Element	
Goal OSR-1: Balanced and Accessible System of Parks and Open Spaces Provide a high-quality environment through the development of recreation resources and preservation of open space that meets community needs in Costa Mesa.	**Consistent.** The proposed improvements would enhance recreational resources/opportunities and while a new trail is proposed and would result in impacts to existing habitat/open space, park uses would not ultimately change and the provision of open space would continue.

Table 4.1-1 Consistency Analysis with Applicable Scenic Quality Regulations

Policy/Regulation	Consistency Analysis
Objective OSR-1A: Maintain and preserve existing parks, and strive to provide additional parks, public spaces, and recreation facilities that meet the community's evolving needs.	**Consistent.** The proposed project would maintain and enhance Talbert Regional Park through improved and new amenities, and improved access, meeting the evolving community needs.
Policy OSR-1.1: Maintain a system of Neighborhood and Community Parks that provide a variety of active and passive recreational opportunities throughout the City.	**Consistent.** The proposed project would enhance existing passive and active recreational opportunities through trail improvements and expansion.
Policy OSR-1.2: Provide parks and recreation facilities appropriate for the individual neighborhoods in which they are located and reflective of the needs and interests of the population they serve.	**Consistent.** The proposed improvements were developed through collaboration with local agencies and communities to reflect neighborhood needs and interests while also preserving open space and the existing Central/Coastal Subarea Orange County NCCP Plan Area Reserve – see Figure 3 of the Biological Resources Report.

The proposed project is a Master Plan document that would include the implementation of select Park improvements and habitat restoration, which would not change the overall use or character of the Park. In addition, the proposed project would not conflict with the existing zoning of the Park, would not result in the substantial degradation of the existing visual quality or character of the Park, and as shown in Table 4.1-1 above, would not result in conflicts with applicable local regulations concerning scenic quality. **No impact** regarding conflicts with scenic quality regulations would occur and no project specific mitigation is required.

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

Less-than-Significant Impact. The proposed project is a Master Plan document that includes access improvements, infrastructure improvements, and habitat restoration as shown in Figure 3. No nighttime work would occur during construction of the proposed project. The Park is located in an urban area with existing sources of nighttime lighting from nearby roadways and residences. The proposed improvements to the maintenance yard would include the installation of security lighting. The security lighting (which would be limited in number) would be hooded, directed downward, and only be turned on when needed by OC Parks staff or other authorized persons. Thus, maintenance yard lighting would not introduce a substantial amount of light or glare during operations and would not adversely affect day or nighttime views in the area. The proposed Nature Center building would include a metallic roof; however, the structure would not be visible from motorists along SR -1 or other, more proximate public roads in the area and a perceptible glare issue would not occur. Due to the proposed height of the nature center and use of low-reflectivity material for the roof, the structure's roof would not generate substantial glare during daytime hours. Impacts would be **less than significant** and no project specific mitigation is required.

4.2 Agriculture and Forestry Resources

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
II.	**AGRICULTURE AND FORESTRY RESOURCES** – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. 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. Would the project:				
a)	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?	☐	☐	☐	☒
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c)	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))?	☐	☐	☐	☒
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e)	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?	☐	☐	☐	☒

a) ***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?***

No Impact. The proposed project is a Master Plan document that includes access improvements, infrastructure improvements, and habitat restoration as shown in Figure 3. According to the California Important Farmland Finder database, the Park and its immediate surroundings are classified as "Other Land" (DOC 2025). The Park is not located on land classified as Farmland pursuant to the Farmland Mapping and Monitoring Program and would therefore not convert any Farmland to non-agricultural use. **No impact** would occur and as such, no project specific mitigation is required.

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

No Impact. The Park is zoned Institutional & Recreational (I&R) by the City of Costa Mesa. Surrounding the Park are areas also zoned Institutional & Recreational (I&R) including Fairview Park, Estancia High School, and Costa Mesa Golf Course, as well as lands zoned for residential uses (City of Costa Mesa 2016b) to the north and southeast. On the west, the Park is bordered by the Banning Channel Bikeway (which parallels the Santa Ana River). The Park is surrounded by existing residences, the Santa Ana River, park and educational uses, and no Williamson Act contracts or zoning for agricultural use are applicable to the Park. Therefore, the proposed project (which is a Master Plan document that consists of access improvements, infrastructure improvements, and habitat restoration to enhance the existing park's recreational value and habitat preservation) would not conflict with existing zoning for agricultural use or a Williamson Act contract. **No impact** would occur, and no project specific mitigation is required.

c) 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))?

No Impact. The Park and surrounding areas are neither zoned for forest land, timberland or timberland production, nor do they contain any forest land or timberland. Therefore, the proposed project (which is a Master Plan document that consists of access improvements, infrastructure improvements, and habitat restoration) would not conflict with or cause the rezoning or conversion of forest land or timberland. **No impact** would occur, and no project specific mitigation is required.

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

No Impact. Refer to response Threshold 4.2(c). **No impact** would occur, and no project specific mitigation is required.

e) 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?

No Impact. Refer to responses 4.2(a) through 4.2(d). The Park is located in an urban area with no existing agricultural uses, Farmland, or forest lands in the vicinity, nor does the Park contain any of those land types. As no Farmland or agricultural uses occur with the Park boundaries or in the vicinity and the proposed project is a Master Plan document that consists of access improvements, infrastructure improvements, and habitat restoration activities, the proposed project would not involve other changes that could convert Farmland to non-agricultural use or convert forest land to non-forest use. **No impact** would occur, and no project specific mitigation is required.

4.3 Air Quality

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III.	**AIR QUALITY** – Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b)	Result in a cumulatively considerable net increase of any pollutant criteria for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d)	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. The Park is located within the South Coast Air Basin (SCAB), which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, as well as the entirety of Orange County, and is within the jurisdictional boundaries of South Coast Air Quality Management District (SCAQMD).

SCAQMD administers SCAB's Air Quality Management Plan (AQMP), which is a comprehensive document outlining an air pollution control program for attaining the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). The 2022 AQMP (SCAQMD 2022) was adopted by the SCAQMD Governing Board in December 2022. The SCAQMD 2022 AQMP was developed to address the attainment of the 2015 national 8-hour ozone ambient air quality standard (70 parts per billion) for the SCAB and Coachella Valley. The 2022 AQMP provides actions, strategies, and steps needed to reduce air pollutant emissions and meet the ozone standard by 2037 (SCAQMD 2022).

The purpose of a consistency finding with regard to the AQMP is to determine if a project is consistent with the assumptions and objectives of the 2022 AQMP and if it would interfere with the region's ability to comply with federal and state air quality standards. SCAQMD has established criteria for determining consistency with the currently applicable AQMP in Chapter 12, Sections 12.2 and 12.3 of the SCAQMD CEQA Air Quality Handbook. These criteria are as follows (SCAQMD 1993):

> **Consistency Criterion No. 1:** Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP.

Consistency Criterion No. 2: Whether the project would exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

To address the first criterion, project-generated criteria for air pollutant emissions have been estimated and analyzed for significance. Detailed results of this analysis are included in Appendix A, Air Quality and Greenhouse Gas Emissions CalEEMod Output Files.

The proposed project, which is a Master Plan document that consists of access improvements, infrastructure improvements, and habitat restoration within the Park, would result in emissions of criteria air pollutants for which the California Air Resources Board (CARB) and U.S. Environmental Protection Agency (EPA) have adopted ambient air quality standards (i.e., the NAAQS and CAAQS). Projects that emit these pollutants have the potential to cause, or contribute to, violations of these standards. The SCAQMD CEQA Air Quality Significance Thresholds, as revised in April 2019, set forth quantitative emission significance thresholds for criteria air pollutants, which, if exceeded, would indicate the potential for a project to contribute to violations of the NAAQS or CAAQS. Table 3.3-1 lists the revised SCAQMD Air Quality Significance Thresholds (SCAQMD 2023).

Table 4.3-1. South Coast Air Quality Management District Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds		
Pollutant	**Construction (pounds per day)**	**Operation (pounds per day)**
VOC	75	55
NO_x	100	55
CO	550	550
SO_x	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55
Lead[a]	3	3
Toxic Air Contaminants and Odor Thresholds		
Toxic air contaminants[b]	Maximum incremental cancer risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic and Acute Hazard index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402[1]	

Source: SCAQMD 2023.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = particulate matter with a diameter less than or equal to 10 microns (coarse particulate matter); $PM_{2.5}$ = particulate matter with a diameter less than or equal to 2.5 microns (fine particulate matter); SCAQMD = South Coast Air Quality Management District.

[a] The phaseout of leaded gasoline started in 1976. Since gasoline no longer contains lead, the proposed project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

[b] Toxic air contaminants include carcinogens and noncarcinogens.

[1] SCAQMD Rule 402 states" A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Regarding NAAQS and CAAQS attainment status,[2] the SCAB is designated as a nonattainment area for federal and state O_3 and $PM_{2.5}$ standards (CARB 2023; EPA 2025). The SCAB is also designated as a nonattainment area for state PM_{10} standards; however, it is in attainment for federal PM_{10} standards. The SCAB is designated as an attainment area for federal and state CO and NO_2 standards, as well as for state sulfur dioxide standards. The Orange County portion of the SCAB is designated as an attainment area for federal and state lead standards.

Construction of the proposed project is anticipated to begin in September 2027 and end in March 2028. Table 4.3-2, Estimated Maximum Daily Construction Criteria Air Pollutant Emissions, summarizes the modeled peak daily emissions of criteria air pollutants and ozone precursors associated with construction of the project. As shown, the project's maximum daily emissions would not exceed the SCAQMD thresholds for any criteria air pollutant during construction.

Table 4.3-2. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Summer Emissions						
2027	1.55	21.59	19.04	0.08	4.90	2.15
2028	N/A	N/A	N/A	N/A	N/A	N/A
Maximum Daily Summer Emissions	**1.46**	**12.68**	**15.43**	**0.03**	**2.70**	**1.47**
Winter Emissions						
2027	1.78	21.98	19.15	0.08	4.90	2.15
2028	3.16	26.88	33.96	0.06	2.05	1.25
Maximum Daily Winter Emissions	**3.16**	**26.88**	**33.96**	**0.08**	**4.90**	**2.15**
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: VOC = volatile organic compound; NOx = oxides of nitrogen; CO = carbon monoxide; SOx = sulfur oxides; PM10 = particulate matter with a diameter less than or equal to 10 microns (coarse particulate matter); PM2.5 = particulate matter with a diameter less than or equal to 2.5 microns (fine particulate matter); SCAQMD = South Coast Air Quality Management District.
The total values may not add up exactly due to rounding.
See Appendix A for detailed results.

1 Estimates account for adherence to fugitive dust suppression requirements from SCAQMD Rule 403 which are factored into the CalEEMod "mitigated" outputs, even though compliance with these rules is not considered mitigation.

Project construction is anticipated to be completed in 2028. Table 4.3-3 summarizes the estimated maximum daily emissions associated with "operation" of the proposed project by source. As shown, the proposed project's maximum daily operational emissions of VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ would not exceed the SCAQMD's significance thresholds in opening year 2028.

2 An area is designated as in attainment when it is in compliance with the NAAQS and/or the CAAQS. These standards 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 are set by the U.S. Environmental Protection Agency and CARB, respectively. Attainment = meets the standards; attainment/maintenance = achieves the standards after a nonattainment designation; nonattainment = does not meet the standards.

Table 4.3-3. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Summer Emissions						
Mobile	0.21	0.15	1.84	0.01	0.50	0.13
Area	0.02	<0.01	0.04	0.00	<0.01	<0.01
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Total Summer Emissions	**0.23**	**0.15**	**1.88**	**0.01**	**0.5**	**0.13**
Winter Emissions						
Mobile	0.22	0.15	1.87	0.01	0.50	0.13
Area	0.01	N/A	N/A	N/A	N/A	N/A
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Total Daily Winter Emissions	**0.23**	**0.15**	**1.87**	**0.01**	**0.5**	**0.13**
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = particulate matter with a diameter less than or equal to 10 microns (coarse particulate matter); $PM_{2.5}$ = particulate matter with a diameter less than or equal to 2.5 microns (fine particulate matter); SCAQMD = South Coast Air Quality Management District; <0.01 = reported value less than 0.01.
The total values may not add up exactly due to rounding.
See Appendix A for complete results.

As presented above in Tables 4.3-1 through 4.3-3, the proposed project would not generate construction or operational criteria air pollutant emissions that exceed the SCAQMD's thresholds, and the project would therefore be consistent with Criterion No. 1.

The second criterion regarding the project's potential to exceed the assumptions in the AQMP or increments based on the year of project buildout and phase is primarily assessed by determining consistency between the project's land use designations and potential to generate population growth. This is because the assumptions in AQMP are based on the maximum population at full build out under the applicable regional and general plan designations. In general, projects are considered consistent with, and would not conflict with nor obstruct implementation of, the AQMP if the growth in socioeconomic factors is consistent with the underlying regional plans used to develop the AQMP (per Consistency Criterion No. 2 of the SCAQMD CEQA Air Quality Handbook). The SCAQMD primarily uses demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by the Southern California Association of Governments (SCAG) for its 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (Connect SoCal 2020) (SCAG 2020), which is based on general plans for cities and counties in the SCAB, for the development of the AQMP emissions inventory (SCAQMD 2020).[3]

[3] Information necessary to produce the emission inventory for the SCAB is obtained from the SCAQMD and other governmental agencies, including the California Air Resources Board (CARB), the California Department of Transportation (Caltrans), and SCAG. Each of these agencies is responsible for collecting data (e.g., industry growth factors, socioeconomic projections, travel activity levels, emission factors, emission speciation profile, and emissions) and developing methodologies (e.g., model and demographic forecast improvements) required to generate a comprehensive emissions inventory. SCAG incorporates these data into its Travel Demand Model for estimating/projecting vehicle miles traveled (VMT) and driving speeds. SCAG's socioeconomic and transportation activities projections in their Connect SoCal 2020 are integrated in the 2022 AQMP (SCAQMD 2022).

According to the City's General Plan Land Use Map and Zoning Map, the General Plan land use designation for the Park is Public/Institutional and is zoned as Institutional & Recreational (City of Costa Mesa 2016a; 2016b). The project would be consistent with the existing land use designation, zoning, and uses on-site. The project would not generate population or employment growth. As a result, the project would be consistent with Criterion No. 2.

As the project would not conflict with Consistency Criteria 1 or 2, impacts relating to the project's potential to conflict with or obstruct implementation of the SCAQMD 2022 AQMP would be **less than significant,** and no project specific mitigation is required.

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less Than Significant Impact. In the context of air quality and pollution, "attainment" means the area/ geographic region meets the NAAQS for specific criteria pollutants such as ozone, particulate matter, carbon monoxide, and others. In contrast, "nonattainment" refers to an area wherein one or more criteria air quality pollutants do not meet the NAAQS.

Air pollution has largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and SCAQMD 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 determining whether a project's individual emissions would have a cumulatively significant impact on air quality. If a project's emissions would exceed the SCAQMD significance thresholds, the project is considered to have a cumulatively considerable contribution. Conversely, projects that do not exceed project-specific thresholds are generally not considered to be cumulatively significant (SCAQMD 2003a).

A quantitative analysis was conducted to determine whether the proposed project might result in emissions of criteria air pollutants that may cause exceedances of the NAAQS or CAAQS or cumulatively contribute to existing nonattainment of ambient air quality standards. Criteria air pollutants include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide, particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}; coarse particulate matter), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$; fine particulate matter), and lead. Pollutants that are evaluated herein include volatile organic compounds (VOCs) and oxides of nitrogen (NO_x), which are important because they are precursors to O_3, as well as CO, sulfur oxides (SO_x), PM_{10}, and $PM_{2.5}$.

As discussed above and presented in Tables 4.3-2 and 4.3-3, the proposed project would result in emissions of criteria air pollutants for which the CARB and EPA have adopted ambient air quality standards (i.e., the NAAQS and CAAQS). Table 4.3-1 lists the revised SCAQMD Air Quality Significance Thresholds (SCAQMD 2023). If the project's construction or operational emissions would exceed the SCAQMD VOC or NO_x thresholds shown in Table 4.3-1, then the project. would result in a cumulatively considerable net increase for O_3, which is a pollutant for which the SCAB is in nonattainment status. These emission-based thresholds for O_3 precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O_3 impacts to occur) because O_3 itself is not emitted directly, and the effects of an individual project's emissions of O_3 precursors (i.e., VOCs and NO_x) on O_3 levels in ambient air cannot be reliably or meaningfully determined through air quality models or other quantitative methods.

CalEEMod Version 2022.1.1.29 was used to estimate emissions from construction and operation of the project. CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant emissions associated with construction and operational activities from a variety of land use projects, including parks. The following discussion quantitatively evaluates project-generated construction and operational emissions and impacts that would result from implementation of the proposed project.

Construction Emissions

Construction of the proposed project, which is a Master Plan document that consists of access improvements, infrastructure improvements, and habitat restoration within the Park, is anticipated to include site preparation for the overall site; grading; site preparation for restoration; trenching; improvement activities related to the Balboa Boulevard Entrance Plan, Nature Center construction, Infrastructure Improvements (existing trails, maintenance yard, wayfinding, habitat restoration) and paving. These construction activities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (e.g., off-road construction equipment, soil disturbance, and VOC off-gassing from architectural coatings and off-site sources (e.g., vendor trucks, haul trucks, and worker vehicle trips). Specifically, entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. Internal combustion engines used by construction equipment, haul trucks, vendor trucks (i.e., delivery trucks), and worker vehicles would result in emissions of VOC, NO_x, CO, PM_{10}, and $PM_{2.5}$. Construction emissions can vary substantially from day to day depending on the level of activity; the specific type of operation; and, for dust, the prevailing weather conditions.

Estimated construction mobile source emissions from on-road vehicles were based on CalEEMod defaults and information provided by the County. In cases where CalEEMod assumed no vendor trips, a minimum of four daily one-way vendor trips were assumed for each phase to provide a conservative estimate of likely vehicle trip related emissions. Per the County, the project does not require demolition of structures. However, the analysis assumed approximately 42,000 cubic yards of fill required for the new trail alignment.

County-provided information supplemented by CalEEMod default assumptions were also assumed for heavy-duty offroad construction equipment, including default values for equipment mix, horsepower, and load factor. It was assumed that offroad equipment would be operating at the site five days per week, up to a maximum of 9 hours per day. Detailed construction equipment modeling assumptions are provided in Appendix A, Air Quality and Greenhouse Gas Emissions CalEEMod Output Files.

Emissions generated during construction (and operation) of the project are subject to the rules and regulations of the SCAQMD. Rule 403 (Fugitive Dust)[4] requires the implementation of measures to control the emission of visible fugitive/nuisance dust, such as wetting soils that would be disturbed. It was assumed that the active sites would be watered at least two times daily, resulting in an approximately 55%

[4] SCAQMD Rule 403 requires implementation of various best available fugitive dust control measures for different sources for all construction activity sources within its jurisdictional boundaries. Dust control measures include, but are not limited to, maintaining stability of soil through pre-watering of site prior to clearing, grubbing, cut and fill, and earth-moving activities; stabilizing soil during and immediately after clearing, grubbing, cut and fill, and other earth-moving activities; stabilizing backfill during handling and at completion of activity; and pre-watering material prior to truck loading and ensuring that freeboard exceeds 6 inches. While SCAQMD Rule 403 requires fugitive dust control beyond watering control measures, compliance with Rule 403 is represented in CalEEMod by assuming twice daily watering of active sites (55% reduction in PM_{10} and $PM_{2.5}$ [CAPCOA 2024]).

reduction of fugitive dust (CalEEMod default value), to represent compliance with SCAQMD standard dust control measures in Rule 403. Compliance with SCAQMD standard dust control measures is also referenced in PDF-BIO-3.

Construction of the proposed project is anticipated to begin in September 2027 and end in March 2028. Table 4.3-2, Estimated Maximum Daily Construction Criteria Air Pollutant Emissions, summarizes the modeled peak daily emissions of criteria air pollutants and ozone precursors associated with construction of the project. As shown, the project's maximum daily emissions would not exceed the SCAQMD thresholds for any criteria air pollutant during construction.

Operational Emissions

Operation of the project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources, area sources, including use of consumer products, landscape maintenance equipment and energy sources. As CalEEMod does not specifically include some of the proposed land use types, surrogate land uses were selected and would best represent the anticipated activities.[5] Area and energy source emissions were estimated based on CalEEMod default assumptions for operation of the surrogate land uses. For emissions from mobile sources, the project would result in 69 daily trips. For further detail on the assumptions and results of the operational emissions analysis, please refer to Appendix A, Air Quality and Greenhouse Gas Emissions CalEEMod Output Files.

Proposed project construction is anticipated to be completed in 2028. Table 4.3-3 summarizes the estimated maximum daily emissions associated with "operation" of the proposed project by source. As shown in Table 4.3-3, the proposed project's maximum daily operational emissions of VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ would not exceed the SCAQMD's significance thresholds in opening year 2028.

As previously discussed, the SCAB has been designated as a federal nonattainment area for O_3 and $PM_{2.5}$, and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. However, as indicated in Tables 4.3-2 and 4.3-3, project-generated construction and operational emissions would not exceed the SCAQMD emission-based significance thresholds for VOCs, NO_x, PM_{10}, or $PM_{2.5}$. The SCAQMD's approach for assessing cumulative impacts is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and State Clean Air Acts. As discussed in Threshold 3.3(a), the proposed project would be consistent with the 2022 AQMP, which is intended to bring the SCAB into attainment for all criteria pollutants. In addition, the regional emissions of PM_{10}, $PM_{2.5}$, and O_3 precursors VOCs and NOx calculated for the proposed project would be less than the applicable SCAQMD regional emissions significance thresholds that are designed to assist the region in attaining compliance with the applicable CAAQS and NAAQS. The SCAQMD does not consider any individual project with emissions that are below the SCAQMD significance thresholds to be cumulatively considerable and consequently would not result in a significant impact to cumulative regional emissions.

Therefore, the proposed project would not result in a cumulatively considerable increase in emissions of nonattainment pollutants, and impacts would be **less than significant** during construction and operation. Accordingly, no project specific mitigation is required.

[5] The surrogate CalEEMod land uses include City Park for the improvement activities on-site.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact**.** The proposed project would not expose sensitive receptors to substantial pollutant concentrations, as evaluated below.

Sensitive Receptors

Sensitive receptors are those individuals more susceptible to the effects of air pollution than the population at large. People most likely to be affected by air pollution include children, the elderly, and people with cardiovascular and chronic respiratory diseases. According to SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993).

The closest sensitive receptors to the Park are single-family residences located approximately 30 feet east of the Park, adjacent to Balboa Boulevard.

Localized Significance Thresholds

The SCAQMD recommends a localized significance threshold (LST) analysis to evaluate localized air quality impacts to sensitive receptors in the immediate vicinity of the proposed project that result from proposed project activities. The impacts were analyzed using methods consistent with those in the SCAQMD's Final Localized Significance Threshold Methodology (SCAQMD 2008a). The proposed project is located within Source-Receptor Area 18, North Coast Orange County. This analysis applies the SCAQMD LST values for a 1.5-acre site within Source-Receptor Area 18 with a receptor distance of 25 meters (82 feet), which is the minimum distance in the SCAQMD's LST guidance.

Proposed project construction activities would result in temporary sources of on-site criteria air pollutant emissions associated with off-road equipment exhaust and fugitive dust generation. According to the Final Localized Significance Threshold Methodology, "off-site mobile emissions from the proposed project should not be included in the emissions compared to the LSTs" (SCAQMD 2008a). Trucks and worker trips associated with the proposed project are not expected to cause substantial air quality impacts to sensitive receptors along off-site roadways since emissions would be relatively brief in nature and would cease once the vehicles pass through the main streets. Therefore, off-site emissions from trucks and worker vehicle trips are not included in the LST analysis. The maximum daily on-site emissions generated from construction of proposed project components are presented in Table 4.3-4, Construction Localized Significance Thresholds Analysis and are compared to the SCAQMD localized significance criteria for Source Receptor Area 18 to determine whether project-generated on-site emissions would result in potential LST impacts. As shown, proposed construction activities would not generate emissions in excess of site-specific LSTs; therefore, localized impacts for the proposed project would be less than significant.

Table 4.3-4. Construction Localized Significance Thresholds Analysis

Phase	NO_x	CO	PM_{10}	$PM_{2.5}$
	Pounds per day			
2027	13.89	15.26	2.43	1.40
2028	26.24	31.95	1.12	1.02
Maximum Daily On-site Construction Emissions	**26.24**	**31.95**	**2.43**	**1.40**
SCAQMD LST Criteria	*111.5*	*804.5*	*5.5*	*4.0*
Threshold exceeded?	**No**	**No**	**No**	**No**

Notes: NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = particulate matter with a diameter less than or equal to 10 microns (coarse particulate matter); $PM_{2.5}$ = particulate matter with a diameter less than or equal to 2.5 microns (fine particulate matter); SCAQMD = South Coast Air Quality Management District; LST = localized significance threshold.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
The total values may not add up exactly due to rounding.
See Appendix A for detailed results.
Localized significance thresholds are shown for a 1.5-acre disturbed area corresponding to a distance to a sensitive receptor of 25 meters in Source Receptor Area 18 (North Coastal Orange County).

CO Hotspots

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed "CO hotspots." The transport of CO is extremely limited, as it disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (LOS E) (LOS E or worse is unacceptable). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. Additional analysis of CO hotspot impacts would be conducted if a project would result in a significant impact or contribute to an adverse traffic impact at a signalized intersection that would potentially subject sensitive receptors to CO hotspots.

At the time that the SCAQMD Handbook (1993) was published, the SCAB was designated nonattainment under the CAAQS and NAAQS for CO. In 2007, the SCAQMD was designated in attainment for CO under both the CAAQS and NAAQS as a result of the steady decline in CO concentrations in the SCAB due to turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities. The SCAQMD conducted CO modeling for the 2003 AQMP[6] (SCAQMD 2003b) for the four worst-case intersections in the SCAB: (1) Wilshire Boulevard and Veteran Avenue, (2) Sunset Boulevard and Highland Avenue, (3) La Cienega Boulevard and Century Boulevard, and (4) Long Beach Boulevard and Imperial Highway. At the time the 2003 AQMP was prepared, the intersection of Wilshire Boulevard and Veteran Avenue was the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day. The 2003 AQMP also projected 8-hour CO concentrations at these four intersections for 1997 and from 2002 through 2005. From years 2002 through 2005, the maximum 8-hour CO concentration was 3.8 ppm at the Sunset Boulevard and Highland Avenue intersection in 2002; the maximum 8-hour CO concentration was 3.4 ppm at the Wilshire Boulevard and Veteran Avenue in 2002. Accordingly, CO concentrations at congested intersections would not exceed the 1-hour or 8-hour CO CAAQS unless projected daily traffic would be at least over 100,000 vehicles per day. The proposed

6 SCAQMD's CO hotspot modeling guidance has not changed since 2003.

project would generate one maintenance trip per day (substantially less than the 10,000 vehicles per day threshold) which would not result in substantial CO exposure to sensitive receptors in the vicinity of the proposed project. Based on these considerations, the proposed project would result in a **less than significant** impact to air quality with regard to potential CO hotspots.

Toxic Air Contaminants

Toxic air contaminants (TACs) are defined as substances that may cause or contribute to an increase in deaths or in serious illnesses, or that may pose a present or potential hazard to human health. As discussed under the LST analysis, the nearest sensitive receptors to the Park are the residences located approximately 30 feet east of the Park.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SCAQMD recommends an incremental cancer risk threshold of 10 in 1 million. "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 will contract cancer based on the use of standard Office of Environmental Health Hazard Assessment risk-assessment methodology (OEHHA 2015). In addition, some TACs have non-carcinogenic effects. The SCAQMD recommends a Hazard Index of 1 or more for acute (short-term) and chronic (long-term) non-carcinogenic adverse health effects as a determinant for significance of exposure of TACs. A Hazard Index is understood as the "sum of the hazard quotients [the ratio of the predicted exposure concentration to the reference exposure level] for substances that affect the same target organ or organ system" (OEHHA 2015) and is the industry standard methodology of estimating the potential for non-carcinogenic health effects from exposure to TACs. The greatest potential for TAC emissions during construction would be diesel particulate matter (DPM) emissions from heavy equipment operations and use of heavy-duty trucks.

DPM has established cancer risk factors and relative exposure values for long-term chronic health hazard impacts; however, no short-term, acute relative exposure level has been established for DPM. Construction of the proposed project would last approximately 7 months, after which project-related TAC emissions would cease. According to the Office of Environmental Health Hazard Assessment, health risk assessments (which determine the exposure of sensitive receptors to toxic emissions) should be based on a 30-year exposure period for the maximally exposed individual receptor; however, such assessments should also be limited to the period/duration of activities associated with the project. This construction schedule of 7 months represents a short duration of exposure (2% of a 30-year exposure), while cancer and chronic risk from DPM are typically associated with long-term exposure. Thus, the proposed project would not result in a long-term source of TAC emissions.

Exhaust PM_{10} is typically used as a surrogate for DPM, and as shown in Table 4.3-4, which presents total on-site PM_{10} from fugitive dust and exhaust, project-generated construction PM_{10} emissions are anticipated to be minimal, and well below the SCAQMD threshold. In addition, sensitive receptors are located approximately 30 feet from the nearest active proposed project construction areas, which would reduce exposure to TACs as dispersion increases with distance from the emission source. Due to the relatively short period of exposure and minimal DPM emissions on site, TACs generated during construction would not be expected to result in concentrations causing significant health risks.

No residual TAC emissions and corresponding cancer health risk are anticipated after construction, and no long-term sources of TAC emissions are anticipated during operation of the project. CARB has published

the Air Quality and Land Use Handbook: A Community Health Perspective (CARB 2005), which identifies certain types of facilities or sources that may emit substantial quantities of TACs and therefore could conflict with sensitive land uses, such as "schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities." The Air Quality and Land Use Handbook is a guide for siting of new sensitive land uses, and CARB recommends that sensitive receptors not be located downwind or in proximity to such sources to avoid potential health hazards. The enumerated facilities or sources include the following: high-traffic freeways and roads, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and large gas dispensing facilities. The proposed project would not include any of the above-listed land uses associated with generation of TAC emissions. For these reasons, the proposed project would not result in substantial TAC exposure to sensitive receptors in the vicinity of the proposed project, and impacts would be **less than significant,** and no project specific mitigation is required.

Health Effects of Criteria Pollutants

Construction and operation of the proposed project would generate criteria air pollutant emissions. However, due to the nature of the proposed project and the short duration of construction, which would last approximately 7 months, the proposed project would not exceed the SCAQMD mass-emission thresholds, as shown in Tables 4.3-2 and 4.3-3 above.

The SCAB is designated as nonattainment for O_3 under both the NAAQS and CAAQS. Thus, existing O_3 levels in the SCAB are at unhealthy levels during certain periods. Health effects associated with O_3 exposure include respiratory symptoms, worsening of lung disease leading to premature death, and damage to lung tissue (CARB 2025a). The contribution of VOCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SCAB due to O_3 precursor emissions tend to be found downwind of the source location because of the time required for the photochemical reactions to occur. Further, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O_3 NAAQS and CAAQS tend to occur between April and October when solar radiation is highest. Due to the lack of quantitative methods to assess this complex photochemistry, the holistic effect of a single project's emissions of O_3 precursors is speculative. Because the proposed project would not involve activities that would result in O_3 precursor emissions (i.e., VOCs or NO_x) that would exceed the SCAQMD thresholds, as shown in Tables 3.3-2 and 3.3-3, the proposed project is not anticipated to substantially contribute to regional O_3 concentrations and its associated health impacts during construction or operation.

In addition to O_3, NO_x emissions contribute to potential exceedances of the NAAQS and CAAQS for NO_2.[7] Health effects associated with NO_x include lung irritation and enhanced allergic responses (CARB 2025b). As shown in Tables 3.3-2 through 3.3-4, proposed project construction and operations would not exceed the SCAQMD NO_x thresholds, and existing ambient NO_2 concentrations would be below the NAAQS and CAAQS. Thus, the proposed project is not expected to result in exceedances of the NO_2 standards or contribute to associated health effects.

[7] NO_2 is a constituent of NO_x.

Health effects associated with CO include chest pain in patients with heart disease, headache, light-headedness, and reduced mental alertness (CARB 2025c). CO hotspots were discussed previously as no impact. Thus, the project's CO emissions would not contribute to the health effects associated with this pollutant.

The SCAB is designated as nonattainment for PM_{10} under the CAAQS and nonattainment for $PM_{2.5}$ under the NAAQS and CAAQS. Health effects associated with PM_{10} include premature death and hospitalization, primarily for worsening of respiratory disease (CARB 2025d). As with O_3 and NO_x, and as shown in Tables 4.3-2 through 4.3-4, the proposed project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed the SCAQMD's thresholds. Accordingly, the proposed project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause an increase in related regional health effects for this pollutant.

In summary, the project, which is a Master Plan document that consists of access improvements, infrastructure improvements, and habitat restoration within the Park, would not result in a potentially significant contribution to regional or localized concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health effects associated with those pollutants. Therefore, impacts would be **less than significant,** and no project specific mitigation is required.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact. The occurrence and severity of potential odor impacts depend 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 project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, and architectural coatings. As supported by the U.S. EPA in their *Near-Roadway Air Pollution and Health: Frequently Asked Questions* (EPA 2014) and *User's Guide for the AMS/EPA Regulatory Model (AERMOD)* (U.S. EPA 2024), such odors disperse rapidly and during construction, odors would disperse rapidly from mobile sources at the Park 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 typically include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (SCAQMD 1993). The Park is a regional park, and the project, which is a Master Plan document that consists of access improvements, infrastructure improvements, and habitat restoration within the Park, would not change the existing use characteristics of the property such that it would increase or alter potential odors on-site. Furthermore, the maintenance and restoration activities that are part of the proposed project are subject to regulation by SCAQMD Rule 402 (see footnote on page 28 of this MND that presents the entirety of Rule 402), which regulates nuisance odors and other objectionable emissions. Rule 402 prohibits the discharge from any source of air contaminants or other material, which would cause injury, detriment, nuisance, or annoyance to people or the public. Therefore, operational impacts would be **less than significant** regarding the proposed project resulting in other

emissions (such as those leading to odors) adversely affecting a substantial number of people. Accordingly, no project specific mitigation is required.

4.4 Biological Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES – Would the project:				
a) 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?	☐	☒	☐	☐
b) 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?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) 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?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) 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 following analysis is based on the Biological Resources Report, prepared by Dudek in support of the proposed project (Appendix B). The report describes the biological conditions of the Park in terms of vegetation/land cover types, flora, wildlife, and wildlife habitats based on biological surveys and focused species surveys conducted in 2019, 2020, 2022, and 2025. The report documents the existing conditions on the Park (for vegetation communities, a 500-foot buffer was included around the Park boundary, hereafter referred to as the study area);

provides the results of focused species surveys; and quantifies potential direct and indirect impacts to biological resources that would result from implementation of the proposed project; discusses those impacts in terms of biological significance in view of federal, state, and local laws and policies; and specifies measures to avoid, minimize, and/or mitigate any significant impacts that would occur to biological resources as a result of proposed project implementation.

Project design features (PDFs) will be incorporated during implementation of the proposed project to avoid and minimize potential direct and indirect effects of construction on the study area. These PDFs include regulatory requirements and elements incorporated into the Master Plan development procedure to ensure compliance with applicable regulatory requirements and elements of the County's General Plan and Master Plan of Parks and Recreation and associated natural resource conservation goals.

- **PDF BIO-1.** Sediment and erosion control measures would be developed and implemented in accordance with RWQCB Construction General Permit requirements to reduce the potential for the project to result in increased siltation of, or release of pollutants into creeks and their tributaries. Best management practice (BMP) categories employed would include erosion control, sediment control, and non-stormwater good housekeeping.
- **PDF BIO-2.** The footprint of disturbance would be limited to the maximum extent feasible, such as limiting access to via pre-existing access routes to the greatest extent possible. Parking, staging, storage, excavation, and disposal site locations would be confined to the smallest areas possible and be positioned in previously disturbed areas to the greatest extent practical.
- **PDF BIO-3.** To reduce fugitive dust resulting from project construction and to minimize adverse air quality impacts, the project would employ dust control measures in accordance with the Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction
- **PDF BIO-4.** To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 2 feet deep would be covered with tarp, plywood, or similar materials at the close of each working day to prevent animals from being trapped. Ramps may be constructed of earth filled or wooden planks within deep-walled trenches to allow animals to escape. Before such holes or trenches are backfilled, they would be thoroughly inspected for trapped animals. If trapped animals are observed, escape ramps or structures would be installed immediately to allow escape. If the trapped animal is injured and cannot use escape ramps or structures, a qualified biologist would be contacted to identify the appropriate next steps.
- **PDF BIO-5.** All construction pipes, culverts, and similar structures that are stored at the construction site for one or more overnight periods would be thoroughly inspected for burrowing owls and nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved. An option is to cap the ends of any stored pipes to prevent any animals from entering. If an animal is discovered inside a pipe, that section of pipe would not be moved until the project biologist or designated representative has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated out of harm's way by an approved biologist.
- **PDF BIO-6.** The project will include a Habitat Restoration Plan which will guide the restoration activities for the project and will detail the proposed methods of restoration, including application type and planting palette. Additionally, the plan will include performance standards to assess the success of the project compared to baseline conditions and inform adaptive management. The Habitat Restoration Plan will be approved by the resource agencies to ensure compliance with allowed uses within the Central–Coastal Subregion NCCP/HCP Reserve and maintenance/improvement of habitat function for covered species.

- **PDF BIO-7.** No invasive non-native plant species shall be planted, seeded, or otherwise introduced as part of the project. Plant material shall be native species appropriate to the site. A qualified biologist shall review landscape plans before approval.
- **PDF BIO-8.** Equipment would be cleaned prior to transport to the Park to prevent potential non-native plant species and other foreign matter, such as sediment and debris, from entering the site.

a) 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?

Less-than-Significant Impact with Mitigation. Endangered, rare, or threatened species, as defined in CEQA Guidelines section 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status species" in this analysis and include (1) endangered or threatened species recognized in the context of the California Endangered Species Act and the federal Endangered Species Act; (2) plant species with a California Rare Plant Ranking (CRPR) (CNPS 2025 (lists 1 through 4); (3) California Species of Special Concern and Watch List species, as designated by the California Department of Fish and Wildlife (CDFW) (CNDDB 2025); (4) mammals and birds that are Fully Protected species, as described in Fish and Game Code, Sections 4700 and 3511; (5) Birds of Conservation Concern, as designated by the U.S. Fish and Wildlife Service (USFWS 2021); and (6) plant and wildlife species that are "covered" under the Orange County Central–Coastal Subregion Natural Communities Conservation Plan/Habitat Conservation Plan (OC Central-Coastal Subregion NCCP/HCP) (County of Orange 1996).

Special Status Plant Species

Special-status plant surveys were conducted to determine the presence or absence of plant species that are considered endangered, rare, or threatened under CEQA Guidelines section 15380 (14 CCR 15000 et seq.). Special-status plants were identified in the Park during focused rare plant surveys conducted in 2020 and 2025. A list of all special-status plant species known to occur in the vicinity of the study area (the Newport USGS 24k quadrangle map and surrounding six topographic quadrangles) and plant species covered under the Central–Coastal Subregion NCCP/HCP, with their habitat requirements, potential to occur in the study area, and survey observations, is provided in Appendix B, Biological Resources Technical Report. Evaluations for each of these special-status species' occurrence in the study area vicinity is provided, as is their potential to occur in the study area based on known range, habitat associations, preferred soil substrate, life form, elevation, and blooming period. Special-status plant species that were observed or have at least moderate to high potential to occur in the study area are discussed in further detail below, within the focused rare plant survey results. The Potential to Occur tables in Appendix B include special-status plant species that have low potential or are not expected to occur in the study area; therefore, these species are not further included in this analysis because no direct, indirect, or cumulative impacts are expected based on the negative surveys and evaluation that these species do not have a moderate or high potential to occur in the study area.

A total of 193 species of native or naturalized plants, 95 native (49%) and 98 non-native (51%) were identified during the spring and summer focused rare plant surveys conducted within the Park in 2020 and in 2025. No federal or state-listed plant species were identified during the focused rare plant surveys. However, six plant species with a California Rare Plant Rank (CRPR 1 through 4) by California Native Plant Society (the California Native Plant Society) and CDFW were observed on the study area: Lewis's evening primrose (*Camissoniopsis lewisii*; CRPR 3), southern tarplant (*Centromadia parryi* ssp. *australis*; CRPR 1.B.1), decumbent goldenbush (*Isocoma menziesii* var. *decumbens*; CRPR 1B.2), San Diego marsh-elder (*Iva hayesiana*; CRPR 2B.2), mud nama (*Nama stenocarpa*; CRPR 2B.2), southwestern spiny rush (*Juncus*

acutus ssp. *leopoldii*; CRPR 4.2); Coulter's matilija poppy (*Romneya coulteri*; CRPR 4.2, fully covered under OC Central-Coastal Subregion NCCP/HCP), and Southern California black walnut (*Juglans californica*, CRPR 4.2). Plants ranked 1 through 3 by CRPR are considered sensitive by CDFW; as such, southwestern spiny rush, southern California black walnut, and Coulter's Matilija poppy are not considered sensitive species by CDFW. These special-status plant species are described in further detail in Appendix B.

Vegetation clearing and grading for the infrastructure improvements (new trails and access ramps), would result in significant direct impacts to one rare plant, southern tarplant (CRPR 1B.1). Tarplant fields are ranked by CDFW as a sensitive native natural community (S2); southern tarplant is ranked 1B.1 by CRPR and is considered rare or endangered in California and elsewhere. As such, project-related impacts to these species would be considered significant. In addition to PDF-BIO-2 (limitation of disturbance footprint to the maximum extent feasible), PDF-BIO-3 (implementation of dust control measures), PDF-BIO-7 (avoidance of use invasive non-native plant species in replanting and restoration plans) and PDF-BIO-8 (cleaning of equipment prior to transport to the site to prevent potential non-native plant species), Mitigation Measure (MM) BIO-1, which entails replacing (at a minimum 1:1 ratio) existing populations of southern tarplant that are proposed to be impacted by vegetation clearing and grading activities, would be implemented to offset the loss of southern tarplant and would reduce direct impacts to special-status plants to a level that is **less than significant**. Since this species' preferred habitat is disturbed areas, such as the edge of existing trails, a concerted effort will need to be made to identify locations within the Park that are suitable for seeding with southern tarplant. To the extent that southern tarplant is re-established in areas adjacent to improved trails following construction, these areas can be counted towards the 1:1 mitigation ratio.

Special Status Wildlife Species

Special-status wildlife species are defined as follows:

- Have been designated as either rare, threatened, or endangered by CDFW or the USFWS and are protected under either the California Endangered Species Act (California Fish and Game Code, Section 2050 et seq.) or federal Endangered Species Act (16 U.S.C. 1531 et seq.); or meet the CEQA definition for endangered, rare, or threatened (14 CCR 15380(b),(d));
- Are candidate species being considered or proposed for listing under these same acts;
- Are fully protected by the California Fish and Game Code Sections 3511, 4700, 5050, or 5515;
- Are of expressed concern to resource/regulatory agencies or local jurisdictions. This includes those wildlife that are considered a state Species of Special Concern; are on CDFW Watch List; are designated as a federal Bird of Conservation Concern; or are considered a state Special Animal; or
- Are listed as Covered Species in the Central–Coastal Subregion NCCP/HCP (County of Orange 1996).

A list of all special-status wildlife species known to occur on or within the vicinity of the study area (the Park and surrounding six topographic quadrangles) and wildlife species covered under the Central–Coastal Subregion NCCP/HCP, with their habitat requirements, potential to occur in the study area, and survey observations, is provided in Appendix B. Appendix C includes special-status wildlife species that have low potential or are not expected to occur in the study area; therefore, these species are not further analyzed in this report because no direct or indirect impacts are expected based on evaluation that these species do not have a moderate or high potential to occur in the study area. Special-status wildlife species that were observed or have at least moderate to high potential to occur are discussed in further detail in Appendix B.

Protocol surveys for coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and burrowing owl (*Athene cunicularial)* were conducted in 2020. Updated focused surveys were conducted in 2025 for the above special-status species; in addition, photograph-only focused surveys for Crotch's bumble bee were conducted. As a result of these focused surveys, coastal California gnatcatcher, least Bell's vireo, and burrowing owl were all found and are considered present in the study area. Other special-status wildlife species directly observed during field surveys within the study area include Cooper's hawk, California gull, double-breasted cormorant, white-faced ibis, Costa's hummingbird, rufous hummingbird, white-tailed kite, prairie falcon, osprey, yellow-breasted chat, and yellow warbler. The results of the southwestern willow flycatcher focused surveys were negative and as such, this species is considered absent from the Park.

Construction of the proposed project may result in significant direct impacts to 14 special-status wildlife species that are considered present on-site: burrowing owl, coastal California gnatcatcher, least Bell's vireo, Cooper's hawk (*Astur cooperii*), California gull (*Larus californicus*), double-breasted cormorant (*Nannopterum auritum*), white-faced ibis (*Plegadis chihi*), Costa's hummingbird (*Calypte costae*), rufous hummingbird (*Selasphorus rufus*), white-tailed kite (*Elanus leucurus*), prairie falcon (*Falco mexicanus*), osprey (*Pandion haliaetus*), yellow warbler (*Setophaga aestiva*), and yellow breasted chat (*Icteria virensl)*. Additionally, least bell's vireo and prairie falcon were observed on site in 2025, while coastal California gnatcatcher was not. Note that red-shouldered hawk was observed on the Park, and although not listed by CDFW or USFWS, it is protected by the MBTA as well as fully covered under the OC Central-Coastal Subregion NCCP/HCP. The County of Orange is a signatory to the OC Central-Coastal Subregion NCCP/HCP and therefore, the County is required to comply with the OC Central-Coastal Subregion NCCP/HCP, which inherently protects against adverse impacts to covered species through the measures included in the NCCP/HCP and Regulatory Agency oversight. Additionally, the OC Central-Coastal NCCP/HCP provides the County take coverage for covered species or habitats that may be impacted by the project.

Project-related impacts to these species may occur during vegetation clearing and grading for key improvements and infrastructure improvements particularly during the general avian nesting season of February through August. California gnatcatcher, least Bell's vireo, and prairie falcon are covered species under the OC Central-Coastal Subregion NCCP/HCP and therefore, with implementation of PDF-BIO-6 (i.e., Resource Agency confirmed compliance with the Central–Coastal Subregion NCCP/HCP), impacts to these species are less than significant.

Burrowing owl was incidentally observed near the western boundary of South Talbert during the jurisdictional delineation survey, just outside the Park boundary, but was not observed during any of the focused surveys conducted in 2020 and 2025. However, due to the continued presence of suitable habitats in the Park there is a potential for burrowing owl to move onto the Park in the future. Therefore, if this species is found on site prior to the start of construction the proposed project may result in a significant direct impact to burrowing owl during grading and vegetation clearing, particularly if the proposed project occurs during the species' breeding season. Proposed project implementation of PDF-BIO-2 (limitation of the disturbance footprint to the maximum extent feasible), PDF-BIO-4 (covering of all excavated, steep-walled holes or trenches more than 2 feet deep at the close of each working day), PDF-BIO-5 (thorough inspection of all pipes, culverts, and similar structures that are stored at the construction site for one or more overnight periods for burrowing owls and nesting birds), and MM-BIO-2, which consists of pre-construction clearance surveys and if necessary based on observed presence of the specie prior to construction and implementation of additional avoidance and mitigation measures, will reduce potential impacts to burrowing owl to a level that is **less than significant**.

Cooper's hawk, California gull, double-breasted cormorant, white-faced ibis, Costa's hummingbird, rufous hummingbird, white-tailed kite, prairie falcon, osprey, yellow warbler, and yellow breasted chat are all protected species by the Migratory Bird Treaty Act and the State Fish and Game Code. Project-related direct and indirect impacts may occur to these species during vegetation clearing and grading activities that commence during the general avian breeding season of February through August. Therefore, direct and indirect impacts to these species would be considered significant. Proposed project implementation of PDF-BIO-2 (limitation of the disturbance footprint to the maximum extent feasible) and MM-BIO-3, which consists of a pre-construction clearance survey and if necessary based on observed presence of special-status species prior to construction, additional avoidance measures including but not limited to the establishment of buffers around known locations of identified special status species, would reduce potential project-related impacts to these seven special-status species to a level that is **less than significant.**

Besides the special-status wildlife species mentioned above, the Park provides suitable nesting habitat for a number of bird species known to occur in the region that are protected by the Migratory Bird Treaty Act and the State Fish and Game Code. These species may be directly and indirectly impacted during vegetation clearing activities that commence during the general nesting season of February through August. Project-related impacts to protected bird species and their nests are considered significant and require mitigation. Proposed project implementation of PDF-BIO-2 (limitation of the disturbance footprint to the maximum extent feasible) and MM-BIO-4, which consists of a pre-construction nesting bird survey and if necessary based on observed presence of nesting migratory birds prior to construction, additional avoidance measures including but not limited to the establishment of buffers around nests will reduce potential impacts to nesting birds to a level that is **less than significant**.

MM-BIO-1 Rare Plant Restoration. In order to replace individual southern tarplant populations in the Park, restoration activities as part of the project shall revegetate the site with both species at a minimum 1:1 ratio. For southern tarplant, the 1:1 ratio shall be calculated based on area occupied by the species. Revegetation can either be accomplished through seeding restoration areas with a native seed mix containing both species and/or planting container plants. Prior to project impacts, existing populations of both species that are proposed to be impacted will be identified and counted to determine the number of seed or container plants needed and suitable area for plant establishment. The methods and quantity of the restoration effort for these two species will be included in the Restoration Plan for the project. The Restoration Plan shall include monitoring and maintenance procedures, performance standards to ensure self-sustaining populations have been established, and adaptive management/remedial measures if restoration is not successful.

MM-BIO-2 Burrowing Owl Pre-Construction Surveys. Prior to the start of grading and vegetation clearing activities within suitable habitat areas on the Park, a pre-construction clearance survey for burrowing owls shall be conducted according to survey protocol outlined in the 2012 CDFW Staff Report on Burrowing Owl Mitigation. A minimum of two surveys will be conducted within 14 days prior to the start of the project and another within 24 hours of initiating ground-disturbing activities. If burrowing owl is found on site additional avoidance and mitigation measures will be required. If burrowing owl occurs in an area that cannot be avoided by the project, additional land conservation and/or relocation may be required, which will be determined through consultation with CDFW.

MM-BIO-3 Pre-Construction Surveys for Special-Status Species. One pre-construction clearance survey shall be conducted no more than 14 days prior to initiation of site preparation and grading activities. A qualified biologist shall walk the entire survey area to determine if any special-status wildlife is observed or detected. Additional measures may be required for observed species on site, such as establishing a buffer around known locations and/or conducting monitoring during construction near occupied areas to ensure no project activities result in loss of an active nest and incidental take does not occur.

MM-BIO-4 Pre-Construction Nesting Bird Surveys and Avoidance. Vegetation clearing and grading activities shall avoid the migratory bird nesting season (typically February 1 through August 31) to reduce any potential significant impacts to birds that may be nesting in the Park, including yellow warbler, yellow-breasted chat, Cooper's hawk, least Bell's vireo, coastal California gnatcatcher, burrowing owl, California gull, white-faced ibis, double-breasted cormorant, Costa's hummingbird, rufous hummingbird, osprey, prairie falcon, and white-tailed kite. To maintain compliance with the Migratory Bird Treaty Act and California Fish and Game Code, if ground-disturbing and/or vegetation clearance activities are scheduled to occur during the avian nesting season, a pre-construction nesting bird survey shall be conducted by a qualified biologist within the project impact footprint and a 500-foot buffer where legal access is granted around the disturbance footprint to determine the presence or absence of protected migratory birds and active nests. Surveys shall be conducted within 3 days prior to initiation of activity in accordance with the Migratory Bird Treaty Act (16 USC 703-712) and the State Fish and Game Code Sections 3503, 3503.5, and 3513.

If an active nest is detected during the nesting bird survey, the nest shall be flagged and mapped on the construction plan, along with appropriate avoidance buffers established around the nest as determined by a qualified biologist based on the species' sensitivity to disturbance (typically 300 feet for passerines and 500 feet for raptors and special-status species). The buffer shall be of a distance to ensure avoidance of adverse effects to the nesting bird by accounting for topography, ambient conditions, species, nest location, and activity type. All nests shall be monitored as determined by the qualified biologist until nestlings have fledged and dispersed, or it is confirmed that the nest has been unsuccessful or abandoned. The qualified biologist shall halt all construction activities within proximity to an active nest if it is determined that the activities are harassing the nest and may result in nest abandonment or take. The qualified biologist shall also have the authority to require implementation of avoidance measures related to noise, vibration, or light pollution if indirect impacts are resulting in harassment of the nest. No project activities shall encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that the nestlings have fledged, and the nest is no longer active.

b) 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?

Less-than-Significant Impact with Mitigation. Thirty-five vegetation communities and land covers (including disturbed forms) were mapped in the study area based on general physiognomy and species composition, including 28 native or naturalized vegetation types and 7 non-native land covers. Of the 28

native or naturalized vegetation communities, 7 are considered sensitive by the California Native Plant Society (CRPR 1-3). The 35 vegetation communities and land cover types are described as follows; their acreages are presented in Appendix B.

The proposed project will permanently impact five of the seven sensitive vegetation communities observed throughout the Park: American bulrush marsh, California sycamore-coast live oak, Menzies's goldenbush scrub, pickleweed mats, and tar plant fields (see Appendix B, Figure 7). The proposed project would result in direct and permanent impacts to 0.61 acres of vegetation communities and land cover types that are considered sensitive by CDFW, which is considered a significant impact. As such, project-related impacts to these communities would require mitigation or on-site habitat restoration to pre-project conditions to comply with CEQA and the OC Central-Coastal Subregion NCCP/HCP. Implementation of PDF-BIO-2 (limitation of the disturbance footprint to the maximum extent feasible), PDF-BIO-3 (implementation of dust control measures), PDF-BIO-6 (implementation of a Habitat Restoration Plan), PDF-BIO-7 (avoidance of invasive non-native plant species in replanting and restoration plans), PDF-BIO-8 (cleaning of equipment prior to transport to the site to prevent potential non-native plant species), and Mitigation Measure MM-BIO-5, which entails restoration and enhancement of impacted sensitive natural communities at a minimum 1:1 ratio, would reduce impacts to sensitive vegetation communities to a level that is **less than significant**. Project-related impacts to native habitats are not considered sensitive, or habitats covered under the OC Central-Coastal Subregion NCCP/HCP such as coastal sage scrub, are not considered significant and do not require mitigation. However, the proposed project will restore and enhance all native habitats on the Park as part of the proposed project which will result in a net increase in habitat value for native and sensitive natural communities located on the Park.

MM-BIO-5 Restoration of Sensitive Natural Communities. The proposed project shall restore and enhance native habitat communities on the Park to a level greater than what currently exists in the Park. The 0.61 acre of impacted sensitive natural communities shall be restored at a minimum 1:1 ratio through planned restoration activities as part of the project. The project's Restoration Plan shall detail the location and amount of restoration proposed to offset project-related impacts to sensitive natural communities.

c) ***Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?***

Less-than-Significant Impact with Mitigation. The Park supports 13 features that are considered waters of the U.S. and state, and an additional 4 features that are also under the jurisdiction of CDFW and the California Coastal Commission (CCC). Table 4.4-1 below summarizes the extent of each regulatory agency's jurisdiction within the Park and 500-foot study area buffer for each type of waters/wetlands.

Table 4.4-1. Jurisdictional Delineation Summary

Jurisdiction	Wetlands Vegetation Communities/Water Types	Park (On site) Acres	Survey Area (Off site) Acres	Total Acres
Jurisdictional Waters of the U.S. and State				
USACE / RWQCB	**Non-Wetland Waters**			
	Ephemeral Drainage	0.20	0.25	0.45
	Intermittent Stream	1.26	15.47	16.52

Table 4.4-1. Jurisdictional Delineation Summary

Jurisdiction	Wetlands Vegetation Communities/Water Types	Park (On site) Acres	Survey Area (Off site) Acres	Total Acres
	Perennial Pond	2.82	1.35	4.17
	Perennial Stream	—	69.47	69.47
	Non-Wetland Waters Subtotal	*4.22*	*86.54*	*90.76*
	Wetland Waters			
	Intermittent Stream	0.15	0.001	0.151
	Perennial Pond	2.82	0.53	3.35
	Wetland	17.02	4.34	21.36
	Wetland Waters Subtotal	*19.99*	*4.87*	*18.77*
	USACE/RWQCB Waters Total*	**24.19**	**91.25**	**115.44**
CDFW and CCC Jurisdictional Waters				
CDFW / CCC Wetlands / Riparian Habitat	**Wetland Waters**			
	Lacustrine Emergent Wetland	—	1.71	1.71
	Palustrine Emergent (Forested Wetland and Salt Marsh)	28.1	18.96	47.04
	Streambed – Riparian	0.23	0.92	1.15
	Wetland Waters Subtotal	*28.33*	*22.42*	*49.9*
	Non-Wetland Waters			
	Unvegetated Streambed	1.23	85.63	86.86
	Freshwater Pond	2.82	0.72	3.54
	Non-Wetland Waters Subtotal	*4.05*	*86.31*	*90.36*
	CDFW/CCC Jurisdiction Total*	**32.38**	**109.03**	**140.26**

Note:
* Acreage may not total due to rounding.

Table 4.4-2 below presents a summary of impacts to jurisdictional aquatic resources within the Park as a result of proposed project implementation that would include access improvements, infrastructure improvements, and habitat restoration activities. As shown therein, the Park contains one feature considered non-wetland waters (ephemeral drainage), and one wetland features (Wetland 1) potentially subject to ACOE and RWQCB jurisdiction that would be impacted by the Project. Additionally, there is one non-wetland features (ephemeral drainage) and four wetland features (Wetland 2, 4, 5, and 6) that are potentially subject to CDFW and CCC jurisdiction that may be impacted by the Project. Total Project-related impacts to ACOE/RWQCB jurisdiction include 0.37 acres (2,896 linear feet), which include approximately less than 0.01 acre (103 linear feet) of direct impacts to non-wetland waters of the U.S./State associated with an unnamed ephemeral drainage, and approximately 0.37 acres (2,896 linear feet) of direct impacts to wetland waters of the U.S./State. Additionally, total project-related direct impacts to CDFW/CCC jurisdiction include approximately less than 0.01 acre (103 linear feet) of non-wetland, and approximately 0.87 acres (8,835 linear feet) of wetlands.

Table 4.4-2. Summary of Direct Impacts to Jurisdictional Aquatic Resources on the Park

Feature Name	Total Park (acres)	Temporary Impacts (Restoration) (acres/linear feet)	Permanent Impacts (acres/linear feet)
Waters of the United States and State (ACOE/RWQCB)			
Non-Wetland Waters			
Concrete Lined Channel	0.05	--	--
Unnamed Ephemeral Drainage	0.15	--	<0.01/103
Victoria Pond	2.82	--	--
Wetland Waters			
Wetland 1	2.98	--	--
Wetland 2	17.02	--	0.37/2,793
Waters of the United States and State (ACOE/RWQCB) Total*	**24.19**	**–/–**	**0.37/2,896**
CDFW/CCC Jurisdictional Waters			
Unvegetated Streambed (Concrete Lined Channel)	1.23	--	--/--
Riparian Streambed (Unnamed Drainage)	0.23	--	<0.01/103
Victoria Pond (Freshwater)	2.82	--/--	--/--
Wetland 1 (Forested Wetland)	2.89	--/--	--/--
Wetland 2 (Salt Marsh)	14.15	--	0.31/1,835
Wetland 4 (Salt Marsh)	0.30	--	<0.01/314
Wetland 5 (Forested Wetland)	7.65	--	0.13/2,586
Wetland 6 (Forested Wetland)	2.75	--	0.06/998
CDFW/CCC Jurisdiction Total*	**32.02**	**–/–**	**0.87/8,835**

Notes: ACOE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; OHWM = ordinary high-water mark; CDFW = California Department of Fish and Wildlife

* Totals may not sum due to rounding.

Project-related impacts to federal and state regulated waters are considered significant and require mitigation to offset impacts. In addition to PDF-BIO-1 (implementation of sediment and erosion control measures during construction, PDF-BIO-2 limitation of disturbance footprint to the maximum extent feasible), MM-BIO-6, which entails obtaining regulatory permits through which direct impacts would be mitigated via on-site restoration of habitat or purchase of off-site mitigation credits (final mitigation ratios would be determined through consultation with regulatory agencies), would be implemented. With applicable PDFs and MM-BIO-6, impacts to jurisdictional waters and wetlands would be **less than significant with mitigation.**

MM-BIO-6 Regulatory Waters Permitting. Direct impacts to jurisdictional waters shall be addressed through the regulatory application process to implement Section 401 and Section 404 of the Clean Water Act, the Porter-Cologne Water Quality Act, and Section 1602 of the California Fish and Game Code. Due to the amount of proposed project-related impacts to potentially jurisdictional aquatic resources it is anticipated that an Individual Permit from the ACOE will be required. An Individual Permit would also require compliance with

404(b)(1) Guidelines and mitigation to offset impacts and ensure no-net loss of wetlands and waters of the U.S. and State. Direct impacts to jurisdictional non-wetland waters shall be mitigated through either the on-site restoration of habitat or through the purchase of off-site mitigation credits. The applicant shall purchase credits through an agency-approved mitigation bank, in-lieu fee program, or other agreement. A minimum ratio of 3:1 for establishment or reestablishment credits shall be required for impacts to jurisdictional wetlands, as well as associated riparian habitat. However, the final mitigation ratio required shall be determined through consultation with the regulatory resource agencies during the permitting process. Finally, a standard Streambed Alteration Agreement shall be required from the CDFW for impacts to CDFW waters, as well as a Coastal Development Permit from the CCC.

d) 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?

Less-than-Significant Impact. Wildlife corridors are linear features and include aerial corridors for avian species that connect large patches of natural open space and provide avenues for dispersal or migration of animals, as well as dispersal of plants (e.g., via wildlife vectors). Wildlife corridors contribute to population viability in several ways: (1) they assure continual exchange of genes between populations, which helps maintain genetic diversity; (2) they provide access to adjacent habitat areas representing additional territory for foraging and mating; (3) they allow for a greater carrying capacity; and (4) they provide routes for colonization of habitat lands following local population extinctions or habitat recovery from ecological catastrophes.

Habitat linkages are patches of native habitat that function to join two larger patches of habitat. They serve as connections between habitat patches and help reduce the adverse effects of habitat fragmentation. Although individual animals may not move through a habitat linkage, the linkage is a potential route for gene flow and long-term dispersal. Habitat linkages may serve both as habitat and avenues of gene flow for small animals such as reptiles, amphibians, and rodents. Habitat linkages may be represented by continuous patches of habitat or by nearby habitat "islands" that function as steppingstones for dispersal and movement (especially for birds and flying insects).

The OC Central–Coastal Subregion NCCP/HCP does not identify specific habitat linkages but did include evaluation of habitat value for reserve design. The proposed project area includes some "medium" value habitat identified as a Reserve System but is generally isolated from large blocks of habitat. The proposed project area lies on the northern end of the central subregion; therefore, the OC Central–Coastal Subregion NCCP/HCP does not identify biological resources adjacent to the north of this area. To the south, the OC Central–Coastal Subregion NCCP/HCP identifies habitats associated with Newport Bay, approximately 3.5 miles from Talbert Regional Park, separated by urbanized areas within the City of Costa Mesa. There are upland and wetland habitats present on the adjacent property to the south. There are additional coastal wetlands approximately 1 mile and 2.5 miles to the southwest and west of the site, but these two are separated from the site by urbanized development within the City of Huntington Beach. Based on these characteristics, the potential for function of the study area as a wildlife corridor or habitat linkage is limited to potential linkages for migratory birds, shorebirds, and possibly some urban-adapted small and medium-sized mammals. Coyote would be the largest species expected to utilize this corridor.

Regarding Victoria Pond, while not designated as a major or critical stopover site within the Pacific Flyway corridor, it is likely used by migratory birds. However, the proposed project does not entail disturbance of/to Victoria Pond, and therefore no impact would result to Victoria Pond.

No significant direct or indirect permanent impacts would occur to wildlife movement or use of native wildlife nursery sites associated with proposed project activities. Existing nearby habitat linkages and wildlife corridor functions would remain intact while construction activities are conducted and following proposed project completion, particularly within the riparian areas that allow for local wildlife movement across the site. Construction activities would not likely result in permanent adverse impacts to wildlife movement because proposed restoration efforts are anticipated to improve habitat connectivity within the Park through increased hydrologic flow, vegetation clearing of invasive vegetation, and trail improvements. Riparian areas on site, specifically Victoria Pond and salt marsh habitats within South Talbert, may provide regional wildlife corridors and nesting areas for migratory birds and mammals. Coyote is the largest mammal that uses native habitats within the Park for local migration.

During construction activities, temporary disturbance to local species may occur, but would not substantially degrade the quality or use of the vegetation communities in the vicinity. Further, through implementation of PDF-BIO-2, the construction disturbance footprint would be limited to the maximum extent feasible, and PDF-BIO-6 would entail the implementation of a Habitat Restoration Plan (and would result in improved habitat quality within the Park). Some indirect impacts to localized wildlife movement could occur during construction activities due to construction-related noise. However, this impact would be temporary and would not be expected to significantly disrupt wildlife movement during and following construction activities.

Project-related long-term indirect impacts to wildlife corridors or habitat linkages would be less than significant as the opportunities for wildlife movement post-proposed project implementation would be improved from existing conditions after the project's restoration efforts are completed throughout the Park. Restoration and proposed project improvements to Talbert Regional Park (the Park) would positively impact multiple riparian habitats on site by clearing of invasive vegetation and improved tidal flow, which could allow increased wildlife movement locally through the area, particularly for species associated with salt marshes, riparian woodlands, and tidal wetlands.

Therefore, direct and indirect impacts on wildlife corridors and nursery sites resulting from the proposed project would be **less than significant and no project specific mitigation is required**.

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

No Impact. The proposed project is a Master Plan document that includes specific access improvements, infrastructure improvements, and habitat restoration activities that would occur within the existing boundaries of the Park. The Park occurs within the County of Orange and the City of Costa Mesa and therefore would be required to adhere to any County or City policies and municipal codes protecting biological resources, typically trees within the public right of way and parkways. After a review of County and City policies there are none that would apply to the protection of biological resources in the Park. The County's biological resource preservation policies are generally contained in specific plans. Beyond the Master Plan (i.e., the proposed project), there are no specific plans for the County that apply to the Park. There are no also generalized biological resource preservation ordinances within unincorporated County areas. Within the City of Costa Mesa, tree-related policies generally pertain to maintenance of landscape

and trees within City parks and parkways, none of which apply to the Park. Therefore, the proposed project would result in **no impact** on local policies or ordinances, and no mitigation is required. Accordingly, no project specific mitigation is required.

f) 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?

Less-than-Significant Impact with Mitigation. The entire Park boundary is located within the OC Central–Coastal Subregion NCCP/HCP. In general, the OC Central–Coastal Subregion NCCP/HCP evaluated a set of covered species and habitat (mostly focused on coastal sage scrub species including coastal California gnatcatcher (*Polioptila californica californica)* and coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*)) and determined an acreage of covered species/habitat take that could be authorized because adequate conservation would be achieved through assemblage and management of a reserve as designated by the plan. Covered species/habitat within the Park includes coastal sage scrub. Wetlands and riparian habitats are not covered habitats, and least Bell's vireo (*Vireo bellii pusillus*) is a conditionally covered species. The Park and proposed project are within the Central Subarea under the OC Central–Coastal Subregion NCCP/HCP as a designated Reserve (Talbert Regional Park) with the study area buffer designated as Urban or Existing Use (or authorized take areas).

Under the OC Central–Coastal Subregion NCCP/HCP, the list of participating landowners includes the County of Orange and Irvine Ranch Company, amongst others. These entities were granted an acreage of specific take authorization for specific projects/activities that would result in impacts both within the Urban (take authorized) areas and Reserve areas. OC Parks and OCPW are participating landowners in the OC Central–Coastal Subregion NCCP/HCP because they are part of the County of Orange. Therefore, take authorization for covered species is granted through the County's participation in the OC Central–Coastal Subregion NCCP/HCP, and impacts to covered sensitive natural communities would be mitigated through payment of mitigation fees or other methods as provided in Sections 1.33 and 4.0 of the OC Central–Coastal Subregion NCCP/HCP Implementation Agreement. Selection of the mitigation fee option to address impacts to coastal sage scrub species is covered under the terms of the existing USFWS Section 10(a)(1)(B) incidental take permit and CDFW Management Authorization granted to the local government with jurisdiction over the proposed activity (i.e., the County) as part of the OC Central-Coastal Subregion NCCP/HCP. No additional approvals pursuant to the federal Endangered Species Act, the California Endangered Species Act, and the Natural Community Conservation Planning Act (NCCP Act) would be required.

The Park is located within the boundaries of the OC Central-Coastal Subregion Plan of the OC Central–Coastal Subregion NCCP/HCP and the Applicant is a signatory to the OC Central–Coastal Subregion NCCP/HCP, the proposed project would receive take coverage for project-related impacts to covered species and vegetation communities as part of its participation in the OC Central-Coastal Subregion NCCP/HCP. Furthermore, the Park provides for passive recreation that, in accordance with Section 5.8.3 of the OC Central–Coastal Subregion NCCP/HC, is compatible with coastal sage scrub protection and management and because the Park is included within the OC Central–Coastal Subregion NCCP/HCP habitat reserve, access and recreational uses are periodically reviewed to determine overall consistency with reserve management policies, practices and priorities. For special-status species and sensitive vegetation communities not fully covered under the OC Central–Coastal Subregion NCCP/HCP, proposed project impacts to these biological resources are subject to local, state, and federal policies/regulations. Impacts to covered habitats would be reduced through on-site restoration or through the purchase of off-site

mitigation credits. Additionally, because the County is a Participating Landowner, take associated with Planned Activities considered and contemplated by the NCCP/HCP is authorized for covered species without payment of the mitigation fee.

These measures are substantially consistent with construction-related minimization measures required for participating landowners under the OC Central–Coastal Subregion NCCP/HCP. Table 4.4-3 demonstrates that the PDFs and mitigation measures discussed above are aligned and consistent with the OC Central-Coastal NCCP/HCP measures.

Table 4.4-3. Compliance with OC Central-Coastal Subregion NCCP/HCP Construction Related Minimization Measures

OC Central–Coastal Subregion NCCP/HCP Measure	PDF or Mitigation Measure
1. To the maximum extent practicable, no grading of CSS habitat that is occupied by nesting gnatcatchers will occur during the breeding season (February 15 through July 15). It is expressly understood that this provision and the remaining provisions of these "construction-related minimization measures" are subject to public health and safety considerations. These considerations include unexpected slope stabilization, erosion control measures and emergency facility repairs. In the event of such public health and safety circumstances, landowners or public agencies/utilities will provide USFWS/CDFW with the maximum practicable notice (or such notice as is specified in the NCCP/HCP) to allow for capture of gnatcatchers, cactus wrens and any other CSS Identified Species that are not otherwise flushed and will carry out the following' measures only to the extent as practicable in the context of the public health and safety considerations.	MM-BIO-3, MM-BIO-4
2. Prior to the commencement of grading operations or other activities involving significant soil disturbance, all areas of CSS habitat to be avoided under the provisions of the NCCP/HCP, shall be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading operations or other activities involving disturbance of CSS, a survey will be conducted to locate gnatcatchers and cactus wrens within 100 feet of the outer extent of projected soil disturbance activities, and the locations of any such species shall be clearly marked and identified on the construction/grading plans.	MM-BIO-5
3. A monitoring biologist, acceptable to USFWS/CDFG will be on site during any clearing of CSS. The landowner or relevant public agency/utility will advise USFWS/CDFW at least seven (7) calendar days (and preferably fourteen (14) calendar days) prior to the clearing of any habitat occupied by Identified Species to allow USFWS/CDFW to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist will flush Identified Species (avian or other mobile Identified Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If birds cannot be flushed, they will be captured in mist nets, if feasible, and relocated to areas of the site to be protected or to the NCCP/HCP Reserve System. It will be the responsibility of the monitoring biologist to assure that Identified bird species will not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis.	MM-BIO-3, MM-BIO-4
4. Following the completion of initial grading/earth movement activities, all areas of CSS habitat to be avoided by construction equipment and personnel will be marked with temporary fencing other appropriate markers clearly visible to	MM-BIO-5, PDF-BIO-2

Table 4.4-3. Compliance with OC Central-Coastal Subregion NCCP/HCP Construction Related Minimization Measures

OC Central–Coastal Subregion NCCP/HCP Measure	PDF or Mitigation Measure
construction personnel. No construction access, parking or storage of equipment or materials will be permitted within such marked areas.	
5. In areas bordering the NCCP Reserve System or Special Linkage/Special Management areas containing significant CSS identified in the NCCP/HCP for protection, vehicle transportation routes between cut-and-fill locations will be restricted to a minimum number during construction consistent with project construction requirements. Waste dirt or rubble will not be deposited on adjacent CSS identified in the NCCP/HCP for protection. Preconstruction meetings involving the monitoring biologist, construction supervisors and equipment operators will be conducted and documented to ensure maximum practicable adherence to these measures.	PDF-BIO-1, PDF-BIO-2
6. CSS identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas shall be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.	PDF-BIO-3

Therefore, with implementation of PDF and Mitigation Measures listed above in Table 4.4-3, the proposed project would comply with construction related minimization measures of the OC Central–Coastal Subregion NCCP/HCP and impacts would be reduced to a level **less than significant**.

4.5 Cultural Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

The following analysis is based on a Cultural Resources Inventory Report, which includes the results of a California Historical Resources Information System (CHRIS) records search, and pedestrian surveys of the proposed project area conducted by Dudek in support of the proposed project (Appendix C).

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

No Impact. The proposed project is a Master Plan document that includes access improvements, infrastructure improvements, and habitat restoration activities occurring within the existing boundaries of the Park. See Section 3 above for additional details.

On October 22, 2019, Dudek cultural resources staff conducted a cultural resources record search through the CHRIS database at the South-Central Coastal Information Center (SCCIC) at California State University, Fullerton (Appendix C). An update to the original records search was conducted by a Dudek archaeologist on October 14, 2025. The search provided information on any documented cultural resources and previous archaeological investigations within 0.5 miles of the Park. In addition to a review of previously prepared site records and reports, the records search included a review of historical maps of the proposed project area, ethnographies, the National Register of Historic Places, the California Register of Historic Resources, the California Historic Property Data File, and the lists of California State Historical Landmarks, California Points of Historical Interest, and Archaeological Determinations of Eligibility.

The SCCIC records search identified 10 previously recorded cultural resources within a 0.5-mile radius of the proposed project area, none of which are located within the proposed project area. These included six (6) prehistoric archaeological resources, two (2) historic-era built environment resources, one (1) historic-era archaeological resource, and one (1) multicomponent archaeological resource. Dudek Archaeologists conducted a Phase I pedestrian survey on November 22, 2019. To assess current site conditions, Dudek archaeologist conducted an updated reconnaissance-level archaeological resources pedestrian survey of the proposed project area on October 29, 2025. Standard archaeological procedures and techniques consistent with the Secretary of the Interior's Standards and Guidelines for a cultural resources inventory were employed during the survey. When possible, 10-meter interval survey transects were conducted and oriented in cardinal direction. Where visible, the ground surface was examined for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock, imported marine shell), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of the current or former presence of structures or buildings (e.g., standing exterior walls, post holes, foundations), and historic-era artifacts (e.g., metal, glass, ceramics, building materials). Ground disturbances such as rodent/reptile burrows and back dirt piles, cut banks, and drainages were also visually inspected for exposed subsurface materials. During the reconnaissance-level pedestrian survey, exposed ground surfaces, cut banks and drainages, rodent/reptile burrows and back dirt piles, and other areas of increased ground visibility were opportunistically inspected for observable cultural materials or features. No cultural resources were identified within the proposed project area during the 2019 and 2025 pedestrian surveys.

Because no built environment resources were identified on the Park, **no impacts** on historical resources would result from the proposed project. Accordingly, no project specific mitigation is required.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than Significant with Mitigation Incorporated. As discussed above, based upon the records search conducted at the SCCIC, ten previously recorded cultural resources and two historic built environment resources were recorded within the 0.5-mile records search radius; however, none are within the Park.

As noted in Appendix C, a number of significant archaeological resources lie adjacent to the proposed project area. P-30-000165 (CA-ORA-165) is the recorded location of the ethnohistoric Gabrielino village of *Lukup*. This site is mentioned frequently in anthropological literature and has direct ethnohistoric links. The "Federal Cylinder Project" includes voice recordings of a Native American man named Salvador Cuevas who sang a song that originated from this village. The Federal Cylinder Project records the following information from Salvador Cuevas: "Song of To-mami-yo-wit. No one composed it, but it was given by Chung-itch-nish himself. This is in the old dead language of the coast. Loo-coop was large rancheria S. of Santa Anna near the ocean. This came from there" (Gray and Schupman Jr. 1990, pg. 209).

The concept of a village being a precise location of settlement is not accurate for all place named areas (Kroeber 1925). Hunter-gatherer settlement may have focused on specific landforms that convey a singular place, while at other times settlement occurred over a broader area that shared a single name. The village of Lukup likely referred to a broader area covering the bluffs and banks of the Santa Ana River and included the aboriginal sites identified in this records search. Archaeologically, deciphering the sites that can be associated with the ethnohistoric village requires definition of temporally consistent archaeological deposits that date to the pre- and post-Mission historic period (i.e., post AD 1769). For the purposes of this analysis, a conservative approach tentatively links all the identified aboriginal sites into the broader village concept associated with the place name *Lukup*.

Archaeological research at the sites identified in the records search has focused primarily on CA-ORA-58 (CA-ORA-58), the Banning/Norris Site (Fairview Site), located on the bluff just outside the eastern Park boundary (within approximately 150 feet of the Park) by Fairview Park. (Koerper and Desautels 1996). First reported in 1937, the site has undergone many excavation efforts and is considered one of the most important such sites in Southern California, having numerous burials and many unique and/or diagnostic artifacts. The site contains evidence of long-distance trade with Classic period Hohokam of the Sonoran Desert and was likely an important political and trade center during the Late Prehistoric period. The sites identified in the records search are located primarily on top of bluffs located east of the current Park. However, the distribution of sites is more likely related to the focus of archaeological research in those areas. No focused, subsurface archaeological exploration has occurred in the low-lying floodplain of the Santa Ana River to the west and inside of the Park.

Examination of the historic topographic maps, aerial photographs, and geomorphological context indicates that the proposed project area remains largely undeveloped, undisturbed, and underlain by native alluvial soils. The channelization of the Santa Ana River and development of the Banning Channel impacted the western margin of the proposed project area. Minor agricultural activity and habitat restoration after channelization affected likely only the top 1 to 2 feet of sediments. This suggests that the Park retains subsurface integrity.

Extensive archaeological deposits, most of which are likely related to the ethnohistoric village of *Lukup*, border the eastern margin of the Park, lining the bluffs. These deposits have high archaeological and tribal significance. The density of aboriginal occupation on the bluffs is a strong predictor of adjacent buried archaeological deposits in the Santa Ana flood plain east of the river channel. Floodplains next to major waterways (including marshes) in Southern California have been frequently demonstrated to contain significant, buried archaeological deposits, such as those found at Bolsa Chica (Couch et al. 2009). For these reasons, the Park is characterized as moderately sensitive for archaeological resources.

The Park is considered to have moderate sensitivity for archaeological resources, whether underneath vegetation or buried in floodplain deposits. As such, there is a moderate potential for the inadvertent discovery of archaeological resources during proposed project implementation and construction may result in impacts to unknown archaeological resources during ground-disturbing activities. Accordingly, MM-CUL-1 and MM-CUL-2 are provided to address potential impacts. MM-CUL-1 would require the preparation of a Worker Environmental Awareness Program (WEAP) that would inform all personnel working on the proposed project about the archaeological sensitivity of the area. MM-CUL-2 establishes formal halt work protocol (and additional measures) to adhere to should earthmoving activities encounter any cultural resources. With implementation of MM-CUL-1 and MM-CUL-2 impacts to unknown archaeological resources would be **less than significant with mitigation**.

MM-CUL-1 Worker Environmental Awareness Program. Prior to commencement of construction activities for all phases of project implementation, OC Parks shall retain a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for Archaeology, to prepare a Worker Environmental Awareness Program (WEAP). The WEAP shall be submitted to OC Parks for review and approval. All construction personnel and monitors shall be presented with the WEAP training by the qualified archaeologist prior to the start of construction activities. The WEAP shall be prepared to inform all personnel working on the proposed project about the archaeological sensitivity of the area, to provide specific details on the kinds of archaeological materials that may be identified during construction, to explain the importance of and legal basis for the protection of significant archaeological resources, and to outline the actions to be taken in the event of a discovery of cultural resources. The WEAP shall define "tribal cultural resources" and include appropriate management requirements relating to inadvertent discovery of a potential tribal cultural resource. Each worker shall also learn the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the site supervisor and archaeological monitor.

MM-CUL-2 Inadvertent Archaeological Discoveries. In the event that any cultural resources are encountered during earthmoving activities, all work within 50 feet of the find shall be halted until a qualified archaeologist/archaeological principal investigator (archaeologist) can evaluate the findings and make recommendations. The archaeologist may evaluate the find in accordance with federal, State, and local guidelines, including those set forth in the California Public Resources Code (PRC) Section 21083.2 and as outlined by CEQA (14 CCR 15064.5[f]; PRC Section 21082), to assess the significance of the find and identify avoidance or other measures as appropriate. If suspected prehistoric or historical archaeological deposits are discovered during construction, all work within the immediate area of the discovery shall be redirected and the find must be evaluated for significance by a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983). The work exclusion buffer may be adjusted as appropriate to allow work to feasibly continue at the recommendation of the archaeologist. Should it be required, temporary flagging shall be installed around this resource in order to avoid any disturbances from construction equipment. The potential for avoidance should be the primary consideration of this initial process.

If the archaeologist observes the discovery to be potentially significant under CEQA, additional efforts, such as the preparation of a monitoring plan shall be prepared by a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for Archaeology, and implemented upon approval by OCPW. The monitoring plan shall include the required archaeological resource treatment, testing, and/or data recovery procedures. If approved by OCPW and noted in the monitoring plan, an archaeological monitor shall be present during the remainder of the ground-disturbing activities for the Project. Archaeological monitoring may be adjusted (increase, decreased, or discontinued) at the recommendation of the archaeological principal investigator and based on inspection of exposed cultural material and the observed potential for soils to contain intact cultural deposits or otherwise significant archaeological material. The archaeological monitor shall be provided with a copy of the Cultural Resources Inventory Report and its pertinent appendices to inform their monitoring efforts. The archaeological monitor shall have the authority to temporarily halt work to inspect areas for potential cultural material or deposits.

Daily monitoring logs shall be completed by the onsite archaeological monitor. Within 60 days following completion of construction, the archaeologist shall provide an archaeological monitoring report to OCPW. This report shall include the results of the cultural monitoring program (even if negative), including a summary of any findings or evaluation/data recovery efforts, and supporting documentation that demonstrates all mitigation measures defined in the environmental document were appropriately met. Appendices shall include archaeological monitoring logs and documentation relating to any newly identified or updated cultural resources. This report shall be submitted to the SCCIC once considered final.

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant Impact. The proposed project is a Master Plan document that includes implementation of specific access improvements, infrastructure improvements, and habitat restoration activities that would occur within the existing boundaries of the Park.

No prehistoric or historic burials were identified within the Park during the CHRIS records search or pedestrian survey. In the event that previously unknown human remains are inadvertently encountered during construction activities, such resources would be treated in accordance with state and local regulations that provide requirements with regard to the accidental discovery of human remains, including California Health and Safety Code Section 7050.5, California PRC Section 5097.98, and the CEQA Guidelines Section 15064.5(e). In accordance with these regulations, if human remains are found, the County Coroner must be immediately notified of the discovery. No further excavation or disturbance of the Park or any nearby area reasonably suspected to overlie adjacent remains can occur until the County Coroner has determined, within two working days of notification of the discovery if the remains are potentially human in origin. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she is required to notify the NAHC within 24 hours. The NAHC must immediately notify those persons it believes to be the most likely descendant from the deceased Native American. The most likely descendant must then complete their inspection within 48 hours of being granted access to the site. The most likely descendant would then determine, in consultation with OC Parks, the disposition of the human remains. Compliance with these regulations would ensure that impacts to human remains resulting from the proposed project would be **less than significant** and no project specific mitigation is required.

To formalize compliance, the following Regulatory Compliance Measure (RCM-CUL-1: Human Remains) is included to ensure consistent implementation.

RCM-CUL-1 Human Remains. In the event that human remains are encountered on the project site, work within 50 feet of the discovery shall be redirected and the County of Orange (County) Coroner notified immediately consistent with the requirements of California Code of Regulations (CCR) Section 15064.5(e). State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code (PRC) Section 5097.98. If the remains County Coroner shall notify the Native American Heritage Commission (NAHC), which shall determine and notify a Most Likely Descendant (MLD). With the permission of the property owner, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and non-destructive analysis of human remains and items associated with Native American burials. Consistent with CCR Section 15064.5(d), if the remains are determined to be Native American and an MLD is notified, the County shall consult with the MLD as identified by the NAHC to develop an agreement for treatment and disposition of the remains. Prior to the issuance of grading permits, the County of Orange (County) Public Works Department, or designee, shall verify that all grading plans specify the requirements of CCR Section 15064.5(e), State Health and Safety Code Section 7050.5, and PRC Section 5097.98, as stated above.

4.6 Energy

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Energy – Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact. Implementation of the proposed project (i.e., specific access improvements, infrastructure improvements, and habitat restoration activities that would occur within the existing boundaries of the Park) would result in energy use for construction and operation, including use of electricity and petroleum-based fuels. The electricity used for construction of the proposed project would be temporary and would make a negligible contribution to the Project's overall energy consumption. The

proposed project is not anticipated to result in additional need for natural gas consumption. Refer to Section 3.17(b) for a discussion on vehicle miles traveled (VMT).

The Project's impact on energy resources is discussed separately below for the construction and operation phases. Energy consumption (electricity and petroleum consumption) was estimated using CalEEMod data from the air quality and GHG emissions assessment (Appendix A, Air Quality and Greenhouse Gas Emissions CalEEMod Output Files). The proposed project is not anticipated to use natural gas. For further detail on the assumptions and results of the energy analysis, please refer to Appendix A.

Construction Energy Use

Electricity

Electricity consumed during proposed project construction is anticipated to be minimal. Various construction activities that would potentially require electricity include the conveyance of water that would be used for dust control (supply and conveyance) and electricity to power any necessary lighting during construction, electronic equipment, or other construction activities necessitating electrical power. Such electricity demand would be temporary, nominal, and would cease upon the completion of construction. Overall, construction activities associated with the proposed project would require limited electricity consumption that would not be expected to have an adverse impact on available Southern California Edison (SCE) electricity supplies and infrastructure. For example, during the 3-month period between September 2024 to December 2024, SCE generated 1.7 Terawatt-Hours (TWh) (GridInfo.com 2026). Therefore, the use of electricity during proposed project construction would not be wasteful, inefficient, or unnecessary.

Petroleum-Based Fuels

Petroleum-based fuel usage represents most energy consumed during construction. Petroleum fuels would be used to power off-road construction equipment on the Park, construction workers would travel to and from the Park, as well as delivery and haul truck trips (e.g., hauling of material to disposal facilities).

Fuel consumption from construction equipment and vehicles was estimated by converting the total carbon dioxide (CO_2) emissions from each construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. For energy calculation purposes, all off-road equipment and hauling and vendor trucks are assumed to be diesel, while worker vehicles are assumed to be gasoline. Construction is anticipated to begin in September 2027 and last 7 months according to the County. The conversion factor for gasoline is 8.78 kilograms per metric ton CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton CO_2 per gallon (The Climate Registry 2023). The estimated diesel fuel usage from construction equipment for construction of the proposed project is shown in Table 4.6-1, Estimated Construction Fuel Use.

Table 4.6-1. Estimated Construction Fuel Use

Source	Fuel Use (gallons)	
	Diesel	Gasoline
Off-Road Equipment	23,986	—
On-Road Trucks	18,219	—
On-Road Workers	—	2,742
Total	**42,205**	**2,742**

Notes: Conversion factors from The Climate Registry (2023).
See Appendix A for complete results.

As shown in Table 4.6-1, construction of improvements associated with the proposed project is anticipated to consume 2,742 gallons of gasoline and 42,205 gallons of diesel over the construction period. The proposed project would be required to comply with the CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes, which incidentally reduces fuel consumption. Furthermore, the proposed project would be subject to CARB's In-Use Off-Road Diesel Vehicle Regulation that requires the vehicle fleet to reduce emissions by retiring, replacing, repowering older engines, or installing Verified Diesel Emissions Control Strategies, ensuring that the construction vehicles are as energy efficient as practicable. Therefore, impacts associated with petroleum-based fuels during construction would be less than significant.

Operational Energy Use

Electricity

The proposed project would require electricity for the maintenance yard lighting and Nature Center building. Additionally, the supply, conveyance, treatment, and distribution of water would indirectly result in electricity usage. Electricity consumption associated with proposed project operation is based on the CalEEMod outputs presented in Appendix A.

CalEEMod default values for energy consumption for the proposed uses were applied for the proposed project analysis. The energy use from non-residential land uses is calculated in CalEEMod based on the California Commercial End-Use Survey database. Energy use in buildings (both natural gas and electricity) is divided by the program into end-use categories subject to Title 24 requirements (end-uses associated with the building envelope, such as the HVAC system, water heating system, and integrated lighting) and those not subject to Title 24 requirements (such as appliances, electronics, and miscellaneous "plug-in" uses).

Title 24 of the California Code of Regulations enhances and regulates California building standards. The most recent amendments to Title 24, Part 6, referred to as the 2022 standards, became effective on January 1, 2023. According to CalEEMod estimates, the proposed project would consume approximately 1,034 kilowatt-hours per year during operation. For context, in 2023, California used approximately 276,213 gigawatt–hours of electricity. Locally, in 2023, non-residential electricity demand in Orange County was approximately 19,578 gigawatt-hours (CEC 2025).

Petroleum

During operations, fuel consumption resulting from the proposed project would involve the use of motor vehicles traveling to and from the Park by one maintenance worker per day in addition to additional visitors to the park. As detailed further in Section 4.17, Transportation, the proposed project would result in 69 daily trips.

Petroleum fuel consumption associated with new motor vehicles traveling to and from the Park is a function of the VMT as a result of proposed project operation. As shown in Appendix A,, and as discussed in Section 4.3, *Air Quality*, and Section 4.8, *Greenhouse Gas Emissions*, the annual VMT attributable to the proposed project were estimated based on project-specific trip generation information and adjusted mileage assumptions. Similar to the construction worker and truck trips, fuel consumption from employees is estimated by converting the total CO_2 emissions from operation of the proposed project to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Based on the annual fleet mix provided in CalEEMod, approximately 95% of the fleet are assumed to run on gasoline, while the remaining 5% are assumed to run on diesel. In the first year of assumed operations (2028), the proposed project would consume approximately 8,970 gallons of gasoline, and 406 gallons of diesel from vehicle travel.

Summary

Over the lifetime of the project, the fuel efficiency of the vehicles being used by employees is expected to increase due to federal and state regulatory requirements for fuel efficiency and increasing preference for electric vehicles. As such, the amount of gasoline and diesel consumed during operation would decrease over time. There are numerous regulations in place that require and encourage increased fuel efficiency. For example, CARB has adopted a new approach to passenger vehicles by combining the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emission vehicles in California (CARB 2017). Additionally, in response to Senate Bill (SB) 375, CARB has adopted the goal of reducing per-capita GHG emissions from 2005 levels by 13% by the year 2035 for light-duty passenger vehicles in the SCAG planning area. This reduction would occur by reducing VMT through the integration of land use planning and transportation. As such, operation of the proposed project is expected to use decreasing amounts of petroleum over time, due to advances in fuel economy. For example, as of November 30, 2022, CARB adopted the Advanced Clean Cars II Regulations, which aim to reach 100% Zero Emissions Vehicles and Plug In Electric Hybrid vehicles for new vehicles sold in the state by 2035.

The proposed project would create additional electricity demand by adding an electrical line to the existing maintenance yard.

In summary, the project, which is a Master Plan document that entails access improvements, infrastructure improvements, and habitat restoration activities, would increase the demand for electricity at the Park and petroleum consumption in the region during construction and operation. However, as the proposed project would be consistent with current regulations and policies, the proposed project would not be wasteful, inefficient, and would not result in unnecessary energy resource consumption. The project's energy consumption demands during construction and operation would conform to the State's Title 24 standards such that the proposed project would not be expected to wastefully use gas and electricity. The proposed project would not directly require the construction of new energy generation or supply facilities or result in wasteful, inefficient, or unnecessary consumption of energy. Moreover,

vehicle usage associated with the proposed project would use less petroleum due to advances in fuel economy and potential reduction in VMT over time. Therefore, impacts would be **less than significant**, and no project specific mitigation is required.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact. The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency including the County of Orange Climate Action Plan Phase 2 (County of Orange 2026). As described in Section 3, Project Description, the proposed project would provide electricity via extension of existing electrical line from the existing restroom building in North Talbert to the existing maintenance yard located within Park boundaries (electrical and water would also be required for the proposed Nature Center building). This energy consumption would be minimal and necessary to accommodate existing maintenance operations on-site, and to facilitate the management of the existing park uses on-site. The proposed project would involve negligible long-term energy use, primarily related to electricity consumption and would generate a nominal amount greenhouse gas (GHG) emissions (refer to Section 4.8, Greenhouse Gas Emissions, of this IS/MND).

Upon completion of construction/habitat-restoration-related activities at the site, the project's operational characteristics would be comparable to the existing condition and energy consumption would be limited to maintenance activities of the on-site park uses. The proposed project would also not conflict with CARB's Climate Change Scoping Plan, which identifies several strategies to reduce GHG emissions through energy efficiency. As discussed in further detail in Section 4.8, the strategies identified in the CARB Climate Change Scoping Plan are primarily state actions requiring no involvement at the project level, meaning that the proposed project would inherently comply with them. As such, implementation of the proposed project would not conflict with applicable plans for energy efficiency, and the impacts during construction and operation would be **less than significant,** and no project specific mitigation is required.

4.7 Geology and Soils

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS – Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

and

ii) Strong seismic ground shaking?

Less-Than-Significant Impact. Talbert Regional Park, like all of southern California, is located within a seismically active region that contains major active faults. The proposed project, which is a Master Plan document that consists of access improvements, infrastructure improvements, and habitat restoration activities within the Park boundaries, would likely be exposed to seismic ground shaking at multiple points in the future. The intensity of ground shaking at any specific location within the region depends on the characteristics of the earthquakes, the distance from the earthquake epicenter, and the local geologic and soil conditions. Earthquake fault zones are delineated boundaries encompassing active faults that constitute potential hazards to structures from surface faulting or fault creep (DOC 2018). The Park is not located within an Alquist-Priolo Earthquake Fault Zone; the nearest fault zone (Newport-Inglewood-Rose Canyon Fault Zone)

is located approximately 1.75 miles north of the Park (DOC 2022). Proposed project construction entails routine and standard practices which would not increase or exacerbate the potential for fault rupture to occur. Operation of the proposed project would not directly or indirectly increase or exacerbate the potential for fault rupture. The proposed project would contain no habitable structures or other structural development intended for human occupancy. Compliance with applicable seismic design requirements would reduce the potential risk to both people and structures with respect to strong seismic ground shaking. Therefore, the proposed project would not directly or indirectly cause potential adverse effects involving rupture of a known earthquake fault, and impacts would be **less than significant**. Accordingly, no project specific mitigation is required.

iii) Seismic-related ground failure, including liquefaction?

Less-than-Significant Impact. Liquefaction occurs when a buildup of pore water pressure in the affected soil layer to a point where a total loss of shear strength may occur during a seismic event, causing the soil to behave as a liquid. The Park is located within a liquefaction zone, as mapped by the California Department of Conservation (DOC 2022). Although the Park is mapped in an area that is subject to the hazard of liquefaction, it is primarily managed as open space and the proposed park improvements, that are relatively minor in scope, would not exacerbate existing risks of liquefaction within the Park. Therefore, liquefaction is not considered to be a hazard associated with the proposed project. Additionally, the proposed project (in particular, the proposed nature center structure) would undergo full design, which would include engineering design standards associated with addressing and minimizing liquefaction potential and the incorporation of pertinent geotechnical information to provide for the stabilization of soils. Therefore, the proposed project, which is a Master Plan document that consists of access improvements, infrastructure improvements, and habitat restoration activities within the Park boundaries, would not increase the risk from seismic-related ground failure, including liquefaction, and impacts would be **less than significant**. Accordingly, no project specific mitigation is required.

iv) Landslides?

No Impact. The proposed project entails specific access improvements, infrastructure improvements, and habitat restoration activities that would occur within the existing boundaries of the Park. Landslides typically occur on moderate to steep slopes that are affected by such physical factors as slope height, slope steepness, shear strength, and orientation of weak layers in the underlying geologic units contribute to landslide susceptibility. The Park and surroundings are generally flat and not located in a landslide zone, as mapped by the California Department of Conservation (DOC 2022). In addition, the proposed project does not propose and would not involve creation of manmade slopes that could be a source of landslides. As such, **no impact** associated with landslides would occur and as such, no project specific mitigation is required.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Construction of proposed park improvements including the nature center, new trails, and access ramps would require earthwork activities that could potentially contribute to soil erosion or loss of topsoil if not properly implemented. Construction of the proposed project would result in more than 1 acre of land disturbance; therefore, the proposed project contractor would prepare and implement a site-specific SWPPP in accordance with SWRCB Order No. 2009-0008-DWQ NPDES General Permit No. CAS00002 (Construction General Permit), amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ. One of the purposes of the SWPPP is to address potential pollutants and their sources, including sources of sediment and site erosion. Conditions of these existing regulations would include adherence to

sediment and stormwater pollutant control BMPs, such as covering of exposed soil stockpiles, sediment barriers, storm drain protection, and various other measures designed to minimize potential for soil erosion and loss of topsoil. Disturbed areas would be returned to existing conditions or stabilized by new field replacement, asphalt, or landscape plantings. Operation of the proposed project would not result in any significant changes to the existing condition that would affect erosion. Therefore, the proposed project would not result in substantial soil erosion of the loss of topsoil and impacts would be **less than significant**. Accordingly, no project specific mitigation is required.

c) 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?

Less Than Significant Impact. The proposed project is a is a Master Plan document that includes specific access improvements, infrastructure improvements, and habitat restoration activities that would occur within the existing boundaries of the Park. As discussed above, the Park is located within a liquefaction zone (DOC 2022); however, the proposed project (in particular, the proposed nature center) requires additional geotechnical investigations to inform final design and construction of the structure to minimize potential geotechnical risks, including soil stability. Therefore, the proposed project would not exacerbate geotechnical hazards related to unstable soils and impacts would be **less the significant**. Accordingly, no project specific mitigation is required.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less than Significant Impact. Expansive soils are clay-based and tend to increase in volume due to water absorption and decrease in water volume due to drying. A review of the U.S. Department of Agriculture Soil Map indicates that the soils found within the Park consist of loamy sand, sandy loam, and silt loam (USDA 2022). These soils are not clay-based; thus, no expansive soils are present within the Park and soil expansion would not pose a potential concern for implementation of proposed project components including specific access improvements, infrastructure improvements, and habitat restoration activities that would occur within the existing boundaries of the Park. Please also refer to the analysis presented under 4.7(c) above, for discussion of liquefaction risks. If such conditions are encountered, the proposed project (in particular, the proposed nature center and electrical utility trenching) would employ standard engineering protocols to limit the potential effects on project-related infrastructure. Therefore, impacts would be **less than significant,** and no project specific mitigation is required.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The proposed project, that includes a Master Plan document with specific access improvements, infrastructure improvements, and habitat restoration activities, would not involve the use of septic tanks or alternative wastewater disposal systems. Therefore, **no impact** would occur, and no project specific mitigation is required.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant Impact with Mitigation. The Park is located within the Peninsular Ranges Geomorphic Province (Norris and Webb 1990). This geomorphic province is characterized by northwest trending mountain ranges and valleys that extend over 900 miles from the tip of the Baja California Peninsula to the Transverse Ranges (i.e., the San Bernardino and San Gabriel Mountains in Southern California). Regionally, the Peninsular Ranges are bounded to the east by the Colorado Desert and extends west to include the continental shelf and offshore islands (Santa Catalina, Santa Barbara, San Nicholas, and San Clemente) (Norris and Webb 1990). Regional mountain ranges in the Peninsular Ranges Geomorphic Province include the Santa Ana, San Jacinto, and Santa Rosa Mountains. Geologically, these mountains are dominated by Mesozoic, plutonic igneous and metamorphic rocks that are part of the Peninsular Ranges Batholith (Southern California Batholith) (Jahns 1954).

More specifically, the Park is located within the Los Angeles Basin. The basin is a sedimentary region connected to an anomalous group of east west-trending mountains collectively known as Transverse Ranges. The present basin is a coastal lowland area whose floor is marked by elongated low ridges and groups of hills that are located on the eastern edge of the Pacific Plate (Jahns 1973). According to surficial geological mapping by Morton and Miller (2006) at a scale of 1:100,000, the study area is underlain by young alluvial fans and young axial-channel deposits (map units Qyf and Qya_s) that are Holocene in age. These Holocene deposits generally have low paleontological sensitivity at the surface because of their young age; however, because the age of sediments increases with depth below the ground surface, the paleontological sensitivity increases from the surface to the subsurface. The eastern extension of the proposed project is underlain by late to middle Pleistocene (~11,700 years ago – 774,000 years ago) (Cohen et al. 2022) old paralic deposits (map unit Qop). Pleistocene paralic deposits have high paleontological sensitivity throughout their extent.

A paleontological records search request was sent to the Natural History Museum of Los Angeles County (NHMLA) on February 1, 2022, and the results were received on February 6, 2022 (Appendix D, Paleontological Resources Record Search). According to the records search, there are no paleontological localities in the proposed project area, but there are fossil localities very near the same sedimentary deposits underlying the proposed project area (NHMLA 2022). The nearest locality to the proposed project area, LACM IP (Los Angeles County Museum Invertebrate Paleontology) 436, was recovered just west of the proposed project area across the Santa Ana River in deposits similar to those that occur at the surface in the easternmost portion of the proposed project area and at an unknown depth below the ground surface (bgs) throughout the majority of the proposed project area. The specimens consisted of unspecified invertebrates recovered from 35-40 feet bgs (NHMLA 2022). Further review of the paleontological records search indicated fossil yielding localities near the proposed project including LACM IP 241, LACM VP (Vertebrate Paleontology) 7422-7425, LACM VP 7366, LACM VP 7679, LACM IP 17427, LACM VP 7657-7659, LACM VP 5466, LACM VP 4254, LACM IP 17103, and LACM IP 17104. These localities included both invertebrate and vertebrate specimen including fossil legless lizard, tree frog, garter snake, kingsnake, ring-necked snake, salamander, skinks, alligator lizards, turtle, quail, vole, shrew kangaroo rat, deer mouse, bat, horse, bison, mammoth, school shark, eagle ray, croaker, sea duck, mussel, clam, and turban snail. The LACM recommended a full paleontological assessment of the proposed project be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards, which this study complies with.

No paleontological resources were identified within the proposed project area as a result of the institutional records search, and desktop geological and paleontological review, and the proposed Park is not anticipated to be underlain by unique geologic features. The majority of the proposed project area is mapped as being underlain by young alluvial fan deposits that are likely too young on the surface to yield significant paleontological resources; however, intact paleontological resources may be present within finer-grained soils of these deposits at depth and in undisturbed Pleistocene paralic deposits. Therefore, given the proximity of past fossil discoveries in the surrounding area and the potential for intact, undisturbed, fine-grained Pleistocene age deposits at depth, the proposed project is moderately to highly sensitive for supporting paleontological resources in areas underlain by old paralic deposits on the surface or deeper excavations into Holocene deposits. In the event that intact paleontological resources are located beneath the proposed Park, ground-disturbing activities associated with construction of the proposed project, such as grading during site preparation and trenching for utilities, have the potential to destroy a unique paleontological resource or site. Without mitigation, the potential damage to paleontological resources during construction would have a potentially significant impact. However, with implementation of MM-GEO-1, which consists of the preparation of a Paleontological Resources Impact Mitigation Program by a certified Orange County paleontologist, impacts would be reduced to below the level of significance. Impacts of the proposed project are considered **less than significant with mitigation** incorporated during construction**.**

MM-GEO-1 Prior to the commencement of any grading or ground disturbing activities on-site, the County of Orange shall retain a certified Orange County paleontologist. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the proposed project. The PRIMP shall be consistent with the guidelines of the Society of Vertebrate Paleontology (SVP) (2010) and should outline requirements for preconstruction meeting attendance and worker environmental awareness training, where monitoring is required within the Park based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, paleontological methods (including sediment sampling for microfossils), reporting, and collections management. The qualified biologist shall attend the preconstruction meeting and a qualified paleontological monitor shall be on-site during all rough grading and other significant ground-disturbing activities (including augering) in area underlain by old paralic deposits and below a depth of 5 feet in areas underlain by young alluvial fan deposits.

4.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS – Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

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

Less than Significant Impact. Greenhouse Gases (GHGs) are those gases that absorb infrared radiation (i.e., trap heat) in the Earth's atmosphere. The trapping and buildup of heat in the atmosphere near the Earth's surface (the troposphere), is referred to as the "greenhouse effect", and is a natural process that contributes to the regulation of the Earth's temperature, creating a livable environment on Earth. The Earth's temperature depends on the balance between energy entering and leaving the planet's system, and many factors (natural and human) can cause changes in Earth's energy balance. Human activities that generate and emit GHGs into the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise. This rise in temperature has led to large-scale changes to the Earth's system (e.g., temperature, precipitation, wind patterns, etc.), which are collectively referred to as climate change. Global climate change has a cumulative impact; a project contributes to this impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. Thus, GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008).

As defined in California Health and Safety Code Section 38505(g) for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride (see also CEQA Guidelines Section 15364.5). The primary GHGs that would be emitted by project-related construction and operations include CO_2, CH_4, and N_2O.[8]

The Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (GWP) concept to compare each GHG's ability to trap heat in the atmosphere relative to another gas. The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons (MT) of CO_2 equivalent (CO_2e). Consistent with CalEEMod Version 2022.1.1.29, this GHG emissions analysis assumed the GWP for CH_4 is 25 (i.e., emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the IPCC's Fourth Assessment Report (IPCC 2007).

The proposed project is a Master Plan document that includes specific access improvements, infrastructure improvements, and habitat restoration activities that would occur with the existing Park boundaries. As discussed in Section 4.3, *Air Quality*, the Park is located within the jurisdictional boundaries of the SCAQMD. In October 2008, the SCAQMD proposed recommended numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects as presented in its Draft Guidance Document—Interim CEQA Greenhouse Gas Significance Threshold (SCAQMD 2008b). This document, which is built on the California Air Pollution Control Officers Association's previous guidance, explored various approaches for establishing a significance threshold for GHG emissions. The draft interim CEQA thresholds guidance document was not adopted or approved by the Governing Board. However, in December 2008, the SCAQMD adopted an interim 10,000 MT CO_2e per-year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency (SCAQMD 2010). The 10,000 MT

[8] Emissions of hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride are generally associated with industrial activities, including the manufacturing of electrical components and heavy-duty air conditioning units and the insulation of electrical transmission equipment (substations, power lines, and switch gears.). Therefore, emissions of these GHGs were not evaluated or estimated in this analysis because the project would not include these activities or components and would not generate hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride in measurable quantities.

CO_2e per-year threshold, which was derived from GHG reduction targets established in Executive Order S-3-05, was based on the conclusion that the threshold was consistent with achieving an emissions capture rate of 90% of all new or modified stationary source projects.

The SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. From December 2008 to September 2010, SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. The SCAQMD has continued to consider adoption of significance thresholds for residential and general land-use development projects. The most recent proposal issued by SCAQMD, issued in September 2010, uses the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

Tier 1. Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.

Tier 2. Consider whether or not the proposed project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

Tier 3. Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT CO_2e per-year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO_2e per year), commercial projects (1,400 MT CO_2e per year), and mixed-use projects (3,000 MT CO_2e per year). Under option 2, a single numerical screening threshold of 3,000 MT CO_2e per year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.

Tier 4. Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of Assembly Bill (AB) 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT CO_2e per-service population for project-level analyses and 6.6 MT CO_2e per-service population for plan-level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

Tier 5. Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence." The CEQA Guidelines do not prescribe specific methodologies for performing an assessment, establish specific thresholds of significance, or mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance that are consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009).

To determine the proposed project's potential to generate GHG emissions that would have a significant impact on the environment, its GHG emissions were compared to the SCAQMD 3,000 MT CO_2e per year screening threshold recommended for non-industrial projects.

Construction Greenhouse Gas Emissions

Construction of the proposed project would result in GHG emissions, which are primarily associated with off-road construction equipment, on-road haul and vendor trucks, and worker vehicles. The SCAQMD recommends that "construction emissions be amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies" (SCAQMD 2008b). Thus, the total construction GHG emissions were calculated, amortized over 30 years, and added to the total operational emissions for comparison with the GHG significance threshold of 3,000 MT CO_2e per year. Therefore, the determination of significance is addressed in the operational emissions discussion following the estimated construction emissions.

CalEEMod Version 2022.1.1.29 was used to calculate the annual GHG emissions based on the construction scenario described in Section 4.3, *Air Quality*. Construction of the proposed project is anticipated to commence in September 2027 and be completed by March 2028. On-site sources of GHG emissions include off-road equipment, and off-site sources include haul trucks, vendor trucks, and worker vehicles. Table 4.8-1 presents the GHG emissions resulting from construction of the project. For further detail on the assumptions and results of this analysis, please refer to Appendix A.

Table 4.8-1. Estimated Annual Construction GHG Emissions

Construction Phase	CO_2	CH_4	N_2O	R	CO_2e
	Metric Tons per Year				
2027	285.95	0.02	0.03	0.16	294.98
2028	170.66	0.01	<0.01	0.03	172.08
				Total Construction GHG Emissions	**467.06**
				Amortized Emissions (30-year project life)	**15.57**

Notes: GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; R = refrigerants; CO_2e = carbon dioxide equivalent; <0.01 = reported value less than 0.01.
See Appendix A for complete results.

Operational Greenhouse Gas Emissions

CalEEMod Version 2022.1.1.29 was used to estimate potential project-generated operational GHG emissions from mobile sources, area sources (landscape maintenance equipment), water use and wastewater generation, solid waste (i.e., CO_2e emissions associated with landfill off-gassing), and refrigerants. As explained in Section 4.3, mobile source emissions were estimated based on project-specific trip generation estimates for, and area source emissions were estimated using CalEEMod default values for the proposed uses. Regarding solid waste, to estimate potential GHG emissions associated with landfill off-gassing, CalEEMod default values were applied. Similarly, to estimate potential GHG emissions from supply, conveyance, treatment, and distribution of water and wastewater treatment, CalEEMod default values were applied. For additional details see Section 4.3 for a discussion of operational emission calculation methodology and assumptions, specifically for mobile sources, as well as Appendix A. The proposed project is assumed to begin operation by 2028 after completion of construction. Table 4.8-2

shows the estimated annual GHG emissions from operation of the proposed project. As discussed above, total annual operational emissions were combined with amortized construction emissions and compared to SCAQMD's recommended threshold of 3,000 MT CO_2e per year for non-industrial projects.

Table 4.8-2. Estimated Annual Operational GHG Emissions

Emission Source	CO_2	CH_4	N_2O	R	CO_2e
	Metric Tons per Year				
Mobile	82.90	<0.01	<0.01	0.10	84.08
Area	0.02	<0.01	<0.01	—	0.02
Energy	0.16	<0.01	<0.01	—	0.16
Solid Waste	0.02	<0.01	<0.01	—	0.03
Water Use	26.82	0.02	<0.01	—	26.99
Refrigerants	—	—	—	0.00	0.00
Total Operational GHG Emissions					**111.28**
Amortized 30-year Construction Emissions[1]					*15.57*
Project Operations + Amortized Construction Total					**126.85**
SCAQMD Threshold					*3,000*
Threshold Exceeded?					**No**

Notes: GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; R = refrigerants; CO_2e = carbon dioxide equivalent; <0.01 = reported value less than 0.01.
See Appendix A for complete results.
The total values may not add up exactly due to rounding.
[1] See Table 4.8-1.

As shown in Table 4.8-2, estimated annual project-generated GHG emissions would be approximately 111 MT CO_2e per year due to proposed project operation only. Estimated annual project-generated operational GHG emissions in 2028 plus amortized construction emissions (16 MT CO_2e per year) would be approximately 127 MT CO_2e per year. Therefore, the proposed project would result in a minimal increase in GHG emissions and would not exceed the SCAQMD threshold of 3,000 MT CO_2e per year. The project's GHG contribution would not be cumulatively considerable and **is less than significant**. Accordingly, no project specific mitigation is required.

b) Would the project generate conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact. The proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions and would result in less-than-significant impacts, as described below. Accordingly, no project specific mitigation is required.

In February 2026, Orange County Board of Supervisors approved the County's Final Climate Action Plan (also referred to as Climate Action Plan Phase 2; County of Orange 2026). In addition to the Final Climate Action Plan, the proposed project has been compared to the applicable GHG reduction measures of CARB's *Climate Change Scoping Plan*, and SCAG's 2024-2050 RTP/SCS (SCAG 2024). These plans support the statewide goals of AB 32 and SB 32, which are also discussed below.

- The City of Costa Mesa is in the process of preparing a Climate Action and Adaptation Plan (CAAP); however, as of February 2026, City staff were in the policy development stage of plan preparation. The City anticipates finalizing the CAAP in Summer 2026 (City of Costa Mesa 2026).

Potential to Conflict with the County of Orange Final Climate Action Plan

The County's Climate Action Plan (CAP) serves the County's 22 departments and respective buildings and activities, nearly 19,000 employees, and unincorporated communities so that all residents have access to carbon neutral benefits. The CAP was completed in two phases, the Preliminary CAP and the Final CAP (Phase 2).

The CAP includes a detailed quantification/inventory of GHGs that establishes an accurate baseline for forecasting emissions both with and without CAP implementation, while also accounting for future growth. Emissions inventories are calculated for municipal operations (referred to as municipal inventory) and activities of residents in unincorporated areas (referred to as community inventory). The Final CAP includes two sets of targets for reducing GHG emissions associated with municipal operations – one set for landfill emissions and another for all other sectors (County of Orange 2026). GHG reduction targets presented in the Final CAP were chosen for the years 2030 and 2045 to align with State climate legislation SB 32 and AB 1279.Non-landfill emission targets are as follows:

- By 2030, reduce non-landfill GHG emissions from County of Orange operations by 47 percent below 2018 (equivalent to 48 percent below 1990 levels as stipulated by Assembly Bill 1279 from 2022).
- By 2045, reduce non-landfill GHG emissions from County of Orange operations by 92 percent below 2018 (equivalent to 85 percent below 1990 levels as stipulated by Assembly Bill 1279 from 2022).

The Final CAP organizes measures to reduce emissions into 6 priority sectors including energy, mobility, resource recovery and waste, environmental justice, resilience, and natural resources. For mobility, measures are aimed at the County's extensive fleet of vehicles and on- and off-road equipment and broad goals include expansion of the County-owned EV charging infrastructure, reduced VMT for County employees and County-owned fleet, and decarbonization of the County-owned fleet (County of Orange 2026). Natural resource measures include improved water supply reliability, protected and enhanced surface and beach water quality, and restored and projected ecosystems (County of Orange 2026). It is important to note that the Final CAP clarifies that many of the natural resource measures are not quantifiable and instead provide meaningful co-benefits that support climate resilience, sustainability, and resource conservation (County of Orange 2026). In addition, the Final CAP notes that all measures are for planning purposes only and do not commit the County to any specific project or physical change (County of Orange 2026).

While the majority of CAP measures are not directly applicable to the Project, Natural Resources measure C-NR4 ("Restore and Protect Ecosystems, Native Habitat and Natural Resources") is directly applicable. The proposed project is consistent with the Final CAP action items associated with Measure C-NR4. Specifically, continued habitat restoration and invasive species management activities within the Park would help preserve biodiversity, increase habitat for native terrestrial species, remove invasive species that are a danger to habitat, and preserve and enhance open space. Furthermore, proposed habitat restoration activities and invasive species management included in the proposed project is consistent with Final CAP Action Items C-NR4.1 ("Support increasing the habitat for native terrestrial and aquatic species prioritizing linkages that enhance ecological connectivity"), C-NR4.2 ("Support removal of invasive species

that are a danger to habitat, water supply, ecosystem function, or other economic or beneficial use"), and C-NR4.4 ("Support preservation and enhancement of open space that supports biodiversity and climate resilience"). Lastly and because the proposed project includes proposed improvements to an existing park that would generate minimal new trips, the proposed project would not conflict with mobility measures and associated action items aimed toward decarbonization of the County-owned fleet.

Potential to Conflict with the CARB Scoping Plan

The California State legislature passed the Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32) to provide initial direction to limit California's GHG emissions to 1990 levels by 2020 and initiate the state's long-range climate objectives. Since the passage of AB 32, the state has adopted GHG emissions reduction targets for future years beyond the initial 2020 horizon year. For the project, the relevant GHG emissions reduction targets include those established by SB 32 and AB 1279, which require GHG emissions be reduced to 40% below 1990 levels by 2030 and 85% below 1990 levels by 2045, respectively. In addition, AB 1279 requires the state to achieve net zero GHG emissions by no later than 2045 and achieve and maintain net negative GHG emissions thereafter.

As defined by AB 32, CARB is required to develop the Scoping Plan, which provides the framework for actions to achieve the state's GHG emission targets. The Scoping Plan is required to be updated every 5 years and requires CARB and other state agencies to adopt regulations and initiatives that will reduce GHG emissions statewide. The first Scoping Plan was adopted in 2008 and was updated in 2014, 2017, and most recently in 2022. Although the Scoping Plan is not directly applicable to specific projects, nor is it intended to be used as the sole basis for project-level evaluations, it is the official framework for the measures and regulations that will be implemented to reduce California's GHG emissions in alignment with the adopted targets. Therefore, a project would be found to not conflict with the statutes if it would meet the Scoping Plan policies and would not impede attainment of the goals therein.

CARB's 2017 Climate Change Scoping Plan update was the first to address the state's strategy for achieving the 2030 GHG reduction target set forth in SB 32 (CARB 2017), and the most recent CARB 2022 Scoping Plan for Achieving Carbon Neutrality update outlines the state's plan to reduce emissions and achieve carbon neutrality by 2045 in alignment with AB 1279 and assesses progress the state is making toward the 2030 SB 32 target (CARB 2022). As such, given that SB 32 and AB 1279 are the relevant GHG emission targets, the 2017 and 2022 Scoping Plan updates that outline the strategy to achieve those targets are the most applicable to the project.

The 2017 Scoping Plan included measures to promote renewable energy and energy efficiency (including the mandates of SB 350), measures to increase the stringency of the Low Carbon Fuel Standard, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and measures to increase the stringency of SB 375 targets. The 2022 Scoping Plan builds upon and accelerates programs currently in place, including moving to zero-emission transportation; phasing out use of fossil gas for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; and displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines) (CARB 2022). Many of the measures and programs included in the Scoping Plan, while not applicable to the project, would result in the reduction of project-related GHG emissions with no action required at the project-level, including GHG emission reductions through increased energy efficiency and renewable energy production (SB 350), reduction in carbon intensity of

transportation fuels (Low Carbon Fuel Standard), and the accelerated efficiency and electrification of the statewide vehicle fleet (Mobile Source Strategy).

The 2045 carbon neutrality goal required CARB to expand proposed actions in the 2022 Scoping Plan to include those that capture and store carbon in addition to those that reduce only anthropogenic sources of GHG emissions. However, the 2022 Scoping Plan emphasizes that reliance on carbon sequestration in the state's natural and working lands will not be sufficient to address residual GHG emissions, and achieving carbon neutrality will require research, development, and deployment of additional methods to capture atmospheric GHG emissions (e.g., mechanical direct air capture). Given that the specific path to neutrality will require development of technologies and programs that are not currently known or available, the project's role in supporting the statewide goal would be speculative and cannot be wholly identified at this time.

Because the proposed project would include proposed improvements to an existing park and minimal new trips, the proposed project would not conflict with the applicable strategies and measures in the 2017 Scoping Plan and 2022 Scoping Plan, respectively. As mentioned above, several Scoping Plan measures would result in reductions of project-related GHG emissions with no action required at the project-level, including those related to reduced fossil fuel use.

Potential Conflict with the Southern California Association of Governments' 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy

The SCAG 2024–2050 RTP/SCS is a regional growth management strategy that targets per capita GHG reduction from passenger vehicles and light trucks in the Southern California Region pursuant to SB 375. In addition to demonstrating the Region's ability to attain the GHG emission-reduction targets set forth by CARB, the 2024–2050 RTP/SCS includes strategies, which are intended to be supportive of implementing 2024-2050 RTP/SCS and reducing GHGs: focus growth near destinations and mobility options, promote diverse housing choices, leverage technology innovations, support implementation of sustainability policies, and promote a green region (SCAG 2024).

The key 2024–2050 RTP/SCS strategies are not applicable to the proposed project, which does not include residential or substantial employment growth as the proposed project operation and maintenance would be served by existing County employees and the proposed project would serve an existing community in the location of an existing park. Additionally, the Park is an existing use, and its use would continue as-is with (or without) implementation of the project. Regarding the SCAG's goal of promoting a green region, SCAG aims to accomplish this through efforts such as supporting local policies for renewable energy production and promoting more resource efficient development (e.g., reducing energy consumption) to reduce GHG emissions. As discussed under Section 3.8(a) above, the proposed project would not consume substantial energy or result in substantial associated GHG emissions. Overall, the proposed project would not conflict with or impede implementation of the SCAG 2024-2050 RTP/SCS.

Potential to Conflict with California Senate Bill 32

SB 32 requires the California Air Resources Board (CARB) to ensure that statewide GHG emissions are reduced to 40% below their 1990 levels by 2030. The California Governor issued EO S-3-05, GHG Emission, in June 2005, which established the following reduction targets:

- 2010: Reduce GHG emissions to 2000 levels
- 2020: Reduce GHG emissions to 1990 levels
- 2050: Reduce GHG emissions to 80% below 1990 levels.

The SCAQMD uses EO S-3-05 as the basis for their screening level, and EO S-3-05 includes the long-term goal to reduce GHG emissions to 80% below 1990 levels by 2050. Any project that is consistent with SCAQMD's thresholds would also be consistent with the goal of SB 32 (to reduce GHG emissions to 40% below 1990 levels by 2030). Therefore, projects that meet the current interim emissions targets/thresholds established by SCAQMD would also be on track to meet the reduction targets for 2030. As shown in Table 4.8-2 above, the proposed project is not anticipated to generate GHG emissions during construction or operation that would exceed the SCAQMD's recommended threshold of 3,000 MT CO_2e per year for non-industrial projects. The recommended threshold is set in order to achieve emission reduction targets. Furthermore, all post-2020 reductions in GHG emissions are addressed via regulatory requirements at the state level, and a project would be required to comply with these regulations as they come into effect.

Overall, the proposed project would comply will all regulations adopted in furtherance of the Scoping Plan to the extent applicable and required by law. As mentioned above, several Scoping Plan measures would result in reductions of project-related GHG emissions with no action required at the project-level, including those related to energy efficiency, reduced fossil fuel use, and renewable energy production by the utility. As demonstrated above, the proposed project would not conflict with the County of Orange Final CAP, CARB's 2017 or 2022 Scoping Plan updates and with the state's ability to achieve the 2030 and 2045 GHG reduction and carbon neutrality goals. Impacts associated with applicable GHG plans, policies, or regulations would be **less than significant**. Accordingly, no project specific mitigation is required.

4.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) 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?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

a) ***Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?***

Less Than Significant Impact. The proposed project is a Master Plan document that would implement access improvements, infrastructure improvements, and habitat restoration activities within the existing boundaries of the Park. Hazardous substances that would be used during construction would include gasoline, diesel fuel, lubricating oil, adhesive materials, grease, solvents, and architectural coatings. Materials may be stored at the Park maintenance yard during construction. Similarly, operation and maintenance of the proposed project would also require routine use of common hazardous substances. These materials are not considered extremely hazardous and are used routinely throughout urban environments for both construction projects and structural improvements. Further, these materials would be stored, transported and handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. Consequently, use of these materials for their intended purpose would not pose a significant risk to the public or environment. With adherence to state and local regulations, impacts associated with routine transport, use, storage, and disposal of hazardous materials would be **less than significant** and no project specific mitigation is required.

b) ***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?***

Less Than Significant Impact. As discussed in response to Threshold Section 4.9(a), construction would involve commonly used hazardous substances such as gasoline, diesel fuel, lubricating oil, grease, and

adhesive materials. These materials are not considered acutely hazardous pursuant to 40 CFR Part 260 Subpart B and are used routinely throughout urban environments for both construction and operation of projects and small-scale structural improvements. Further, these materials would be transported and handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. With adherence to state and local regulations, impacts associated with reasonably foreseeable upset and accident conditions would be **less than significant** and no project specific mitigation is required.

c) 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?

Less Than Significant Impact. The proposed project is a Master Plan document that would implement access improvements, infrastructure improvements, and habitat restoration activities within the existing boundaries of the Park. The nearest school is the Waldorf School of Orange County, located at 2350 Canyon Dr, Costa Mesa, CA, 92627, approximately 0.2 miles east of Talbert Regional Park (specifically, the North Talbert parcel).

As discussed in response to Threshold Section 4.9(a), construction would involve commonly used hazardous substances including gasoline, diesel fuel, lubricating oil, grease, and adhesive materials. These materials are not considered acutely hazardous pursuant to 40 CFR Part 260 Subpart B and are used routinely throughout urban environments for both construction and operation of projects and small-scale structural improvements. Further, these materials would be transported and handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. With adherence to state and local regulations, impacts would be **less than significant,** and no project specific mitigation is required.

d) Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. According to the DTSC's EnviroStor database, there are no clean-up sites located within or near the Park (DTSC 2025). Other state and local government agencies are required to provide additional hazardous materials and release information for the Cortese List. The State Water Resources Control Board (SWRCB)'s GeoTracker database identifies leaking underground storage tanks, waste discharge sites, oil and gas sites, and other waste or cleanup sites. A review of GeoTracker did not identify any sites or facilities within or adjacent to the proposed project area (SWRQCB 2025). The nearest identified site with open-site assessment statuses is Newport Banning Ranch LLC (ID#SL0605921271), a Cleanup Program Site, located approximately 0.6 miles southwest of the Park. These hazardous materials sites are located at adequate distances from the Park such that they would not affect a worker hazard for construction crews (the proposed project entails access improvements, infrastructure improvements, and habitat restoration activities within the existing boundaries of the Park). Therefore, **no impact** would occur. Accordingly, no project specific mitigation is required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The nearest airport is John Wayne Airport, located approximately 4.4 miles northeast of the Park. The Park does not fall within the airport environs land use plan for this nearby airport (ALUC 2008). There are two helispots in South Talbert (see Exhibit 5.1 Emergency Access Plan, in the Park Master Plan) that are provided to ensure firefighting crews can access fires in the Park quickly and effectively (use of the helispots is infrequent and typically is limited to emergency fire events). The proposed project is not located within 2 miles of a public use airport, nor is it located within an airport land use plan. As such, there would be no excessive noise or safety hazards affecting the project, and **no impact** would occur. Accordingly, no project specific mitigation is required.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less-than-Significant Impact. The proposed project is a Master Plan document that would implement access improvements, infrastructure improvements, and habitat restoration activities within the existing boundaries of the Park. Construction of the proposed project would require temporary closure of areas under active construction. Construction of the proposed project would not require the partial or full closure of roadways and would not prevent emergency access to the Park or the surrounding area. Furthermore, the proposed project includes the construction of a new emergency vehicle access ramp off Balboa Boulevard that would improve emergency access and response to the park. Implementation of the proposed project does not require any amendments or revisions to the County's Local Hazard Mitigation Plan or the City of Costa Mesa's Local Hazard Mitigation Plan (City of Costa Mesa 2022) and would not result in any interference of adopted emergency response or evacuations. Therefore, impacts would be **less than significant,** and no project specific mitigation would be required.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact. The Park is located within a Local Responsibility Area (LRA) and is not located within a Very High Fire Hazard Severity Zone (VHFHSZ) within an SRA (CAL FIRE 2025). However, North Talbert is primarily mapped within a High Fire Hazard Severity Zone and South Talbert is mapped as within a Moderate Fire Hazard Severity Zone (CAL FIRE 2025). The proposed project, which is a Master Plan document that entails access improvements, infrastructure improvements, and habitat restoration activities within the existing boundaries of the Park, would not contain habitable structures or other structural development intended for human occupancy. While a Nature Center is proposed, this structure would be located at the site of the existing restrooms building in North Talbert and would be built consistent with all relevant building codes and safety standards. As such, the proposed project would not expose people or structures to significant risk of loss, injury, or death involving wildfires. **No impact** would occur, and no project specific mitigation is required.

4.10 Hydrology and Water Quality

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less-than-Significant Impact. The proposed project is a Master Plan document that would implement access improvements, infrastructure improvements, and habitat restoration activities within the existing boundaries of the Park.

The Clean Water Act (CWA) is the primary federal law regulating water quality and protecting water resources. Section 402 of the CWA establishes the National Pollutant Discharge Elimination System (NPDES) to regulate discharge of pollutants into water resources. In California, SWRCB and Regional Water Resource Quality Control Boards (RWQCBs) administer the NPDES permitting programs. The regulating agency for the Park is the Santa Ana RWQCB, which administers the Construction General Permit. The Construction General Permit applies to development projects that would disturb over 1 acre of land and require the implementation of best management practices (BMPs) to prevent stormwater runoff from the construction site. In addition to the Construction General Permit, development in Costa Mesa would be subject to Costa Mesa Municipal Code Title 8, Chapter III, Section 8-32 (Control of Runoff), which prevents or reduces runoff from new development, significant redevelopment, or grading.

Construction activities associated with the proposed project would disturb more than one acre of land and thus would be subject to the Construction General Permit and any BMPs required by the permit to reduce or prevent runoff from the Park to nearby surface water. BMPs would be applied to all earthwork/ground disturbing activities, such as grading for trail improvements, construction of access ramps, and trenching for electric utilities. Therefore, construction would not violate water quality standards or substantially degrade water quality.

Operation of the proposed project would not result in any new sources of runoff. The proposed project would include construction of the Nature Center, new access ramps into the park from Balboa Boulevard and the Banning Channel Bikeway, new and elevated trails, extension of existing electrical service to the park maintenance yard, installation of wayfinding features, and continuation of habitat restoration practices. Paving would occur for a limited area (900 square feet) at the Balboa Boulevard entrance, otherwise the proposed project would not introduce new paved or impervious surfaces. For the access ramp construction, standard BMPs such as soil stabilization methods would be implemented. Therefore, the proposed project would not result in violation of water quality standards or degradation of water quality. Impacts would be **less than significant**, and no project specific mitigation is required.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less-than-Significant Impact. The proposed project is a Master Plan document would implement access improvements, infrastructure improvements, and habitat restoration activities within the existing boundaries of the Park.

The Mesa Water District provides water resources to the City. The Mesa Water District receives water from two main sources, the Lower Santa Ana River Groundwater Basin, which is managed by the Orange County Water District (OCWD) and a backup source of imported water from the Municipal Water District of Orange County (MWDOC). The proposed project is not anticipated to result in an increase in water demand during operation compared to current conditions because the proposed project does not propose new activities that would substantially increase demand on groundwater resources.

In addition, the proposed project would not result in any addition of substantial impervious surfaces as part of the proposed improvements. Thus, the proposed project would not affect groundwater recharge at the Park. Therefore, the proposed project would not impede sustainable groundwater management of the basin, and impacts would be **less than significant,** and no project specific mitigation is required.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on- or off-site?

Less-than-Significant Impact. The proposed project would not alter the course of a stream or river on the Park. The proposed project, which entails access improvements, infrastructure improvements, and habitat restoration activities within the existing boundaries of the Park, would include ground-disturbing construction activities (e.g., site preparation, grading, trail improvements, and access ramp construction). These activities may alter the drainage pattern on site during construction, when earth is moved and infrastructure is put in place. Because the proposed project would be disturbing over 1 acre of land, it would be subject to the Construction General Permit, and associated BMPs which would reduce and prevent erosion and siltation from exposed soils during construction activities. During operation, the proposed improvements would not result in substantial alteration of the existing drainage pattern on site because the improvements would occur in the same location as the existing facilities. While the proposed project would expand the total footprint of the trails, these areas would be pervious, and they would not substantially alter drainage patterns nor result in substantial erosion or siltation. Regarding the paved access ramp at the Balboa Boulevard entrance, the ramp would be constructed of compacted natural soil and in addition to standard BMPs would be installed to minimize potential for erosion and surface water runoff. Therefore, construction and operation activities would not result in substantial alterations to the drainage pattern that would result in substantial erosion or siltation. Impacts would be **less than significant,** and no project specific mitigation is required.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less-than-Significant Impact. As noted above, the proposed project does not propose any substantial new paved surfaces as part of the proposed project which could be a source of surface runoff. The proposed access ramp off Balboa Boulevard and the proposed trails would install dirt for accessibility, which is a porous material that would allow infiltration, and would not result in an increase in surface runoff. Therefore, the proposed project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, and impacts would be **less than significant**. Accordingly, no project specific mitigation is required.

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less-than-Significant Impact. The Park is not currently served by a stormwater drainage system. Stormwater is absorbed by the natural habitat or follows natural drainage patterns to the Santa Ana River and other natural bodies of water. The proposed project would not include the addition of stormwater drainage infrastructure, and the proposed project would not be anticipated to result in a change to the quantity of runoff water as a result of the proposed improvements. Operation of the proposed project, which entails access improvements, infrastructure improvements, and habitat restoration activities within the existing boundaries of the Park, would not result in any new uses to the Park, nor would it result in an increase in visitors to the Park. As such, it is anticipated that the proposed project would not introduce any new sources of polluted runoff to the Park. Therefore, impacts would be **less than significant,** and no project specific mitigation is required.

iv) Impede or redirect flood flows?

Less-than-Significant Impact. As noted above, the proposed project, which entails access improvements, infrastructure improvements, and habitat restoration activities within the existing boundaries of the Park, does not propose any substantial new paved surfaces as part of the proposed project which could impede or redirect flood flows. The proposed improvements at the existing staging area and entrances and the proposed trails would install dirt for accessibility, which is a porous material that would allow infiltration, and would not result in an increase in surface runoff. Therefore, the proposed project would not substantially impede or redirect flood flows, and impacts would be **less than significant**. Accordingly, no project specific mitigation is required.

d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Less-than-Significant Impact. The City of Costa Mesa General Plan states that although the City lies approximately 1 mile from the Pacific Ocean and thus is susceptible to flooding from tsunamis, the potential for tsunamis affecting the City is negligible (City of Costa Mesa 2015). Additionally, the General Plan states that the absence of any large bodies of water within the City and the location of high bluffs adjacent to Newport Bay reduce the possibility of damage from seiche effects.

The General Plan Figure S-5 Local Flooding Hazards depicts areas at risk of flood hazard based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (City of Costa Mesa 2015). The proposed Park is located in an area mapped as a 500-Year Flood Zone, meaning a flood hazard area subject to inundation by the 1% annual chance flood.

The proposed project would not introduce new sources of pollution to a flood zone. As previously noted, the proposed project, which entails access improvements, infrastructure improvements, and habitat restoration activities, would not change existing uses or result in an increase in visitors to the Park that would result in an increase in potential pollutants on site that could be at risk if Park inundation were to occur. In addition, and during construction, the proposed project contractor would prepare and implement a site-specific SWPPP in accordance with SWRCB Order No. 2009-0008-DWQ NPDES General Permit No. CAS00002 (Construction General Permit), amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ. One of the purposes of the SWPPP is to address potential pollutants and their sources, including sources of sediment and site erosion. Therefore, the proposed project would not risk release of pollutants due to site inundation. Impacts would be **less than significant,** and no project specific mitigation is required.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less-than-Significant Impact. The City is underlain by the Lower Santa Ana River Groundwater Basin. Groundwater levels are managed within a safe basin operating range to protect the long-term sustainability of the OC Basin and to protect against land subsidence. OCWD regulates groundwater levels in the OC Basin by regulating the annual amount of pumping. The proposed project, which entails access improvements, infrastructure improvements, and habitat restoration activities, would not entail or require groundwater pumping and would comply with all applicable water quality control plans and groundwater management plans. The proposed project would comply with all RWQCB policies and regulations, applicable water quality management plans, applicable NPDES requirements, Costa Mesa Municipal Code Title 8, and

standard conditions of approval. Therefore, impacts would be **less than significant,** and no project specific mitigation is required.

4.11 Land Use and Planning

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

a) Would the project physically divide an established community?

No Impact. The proposed project entails specific access improvements, infrastructure improvements, and habitat restoration activities that would occur within the existing boundaries of the Park. The physical division of an established community typically refers to the construction of a linear feature (such as a major highway or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community or between a community and outlying area. The proposed project would be located entirely within the existing Park. The proposed project would include park improvements that would not impede movement within the community. **No impacts** would occur, and no project specific mitigation would be required.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The proposed project would include access improvements, infrastructure improvements, and habitat restoration. Operation and maintenance of the proposed project would not substantially differ from existing park use and maintenance protocol and would not result in a change to existing land uses. Potential environmental impacts associated with the implementation of the proposed project are analyzed throughout this MND. Where necessary, the proposed project will incorporate applicable mitigation measures to reduce environmental impacts. Therefore, it would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, **no impacts** would occur and project specific mitigation for land use impacts are required.

Approximately 97 acres of the Park (South Talbert) are within the delineated Coastal Zones Affecting Costa Mesa (see Conservation Element, Figure CON-2: Coastal Zones; City of Costa Mesa 2015). As the proposed project entails specific access improvements, infrastructure improvements, and habitat restoration activities and would maintain existing recreation use and does not propose changes to land use or zoning designation (the Park would continue to function as publicly accessible and permanently preserve open space), no conflicts with the City's responsibilities to address and protect its coastal resources would occur.

4.12 Mineral Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. The State Geologist divides state lands into various Mineral Resource Zones (MRZs) that reflect potential for the presence of minerals or potential for mineral resource extraction. The proposed project, which includes access improvements, infrastructure improvements, and habitat restoration activities within the existing boundaries of the Park, is located in an area classified as MRZ-3, which denotes "areas of undetermined mineral resource significance" (City of Costa Mesa 2016c). Mineral extraction does not currently occur at the Park. While no mineral deposits have been identified on the Park, the proposed project would not prevent the future extraction of mineral resources should this option be pursued by OCPW. There would be **no impact** on the loss of availability of a known mineral resource.

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. The 2015-2035 City of Costa Mesa General Plan EIR states that neither the City's General Plan nor any other City planning documents identify any locally important mineral resources within the City (City of Costa Mesa 2016c). As such, the proposed project would not result in an impact related to the loss of availability of a locally important mineral resource recovery site. The proposed project would include access improvements, infrastructure improvements, and habitat restoration activities. Thus, there would be no impact, and no project specific mitigation is required.

4.13 Noise

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE – Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive ground borne vibration or ground borne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Noise and Vibration Characteristics

Noise

Noise is defined as unwanted sound. Sound may be described in terms of level or amplitude (measured in decibels [dB]), frequency or pitch (measured in hertz or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the amplitude of sound is the decibel. Because the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale is used to relate noise to human sensitivity. The dBA scale performs this compensation by discriminating against low and very high frequencies in a manner approximating the sensitivity of the human ear. Several descriptors of noise (noise metrics) exist to help predict average community reactions to the adverse effects of environmental noise, including traffic-generated noise, on a community. These descriptors include the equivalent noise level over a given period (Leq), the statistical sound level, the day–night average noise level (Ldn), and the Community Noise Equivalent Level (CNEL). Each of these descriptors uses units of dBA. Table 4.13-1 provides examples of A-weighted noise levels from common sounds. In general, human sound perception is such that a change in sound level of 3 dB is barely noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level.

Table 4.13-1. Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
—	110	Rock band
Jet flyover at 300 meters (1,000 feet)	100	—
Gas lawn mower at 1 meter (3 feet)	90	—

Table 4.13-1. Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Diesel truck at 15 meters (50 feet), at 80 kilometers per hour (50 mph)	80	Food blender at 1 meter (3 feet) Garbage disposal at 1 meter (3 feet)
Noisy urban area, daytime gas lawn mower at 30 meters (100 feet)	70	Vacuum cleaner at 3 meters (10 feet)
Commercial area Heavy traffic at 90 meters (300 feet)	60	Normal speech at 1 meter (3 feet)
Quiet urban daytime	50	Large business office Dishwasher, next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime	30	Library
Quiet rural nighttime	20	Bedroom at night, concert hall (background)
—	10	Broadcast/recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: Caltrans 2013
Note: dBA = A-weighted decibel.

L_{eq} is a sound energy level averaged over a specified period (typically no less than 15 minutes for environmental studies). L_{eq} is a single numerical value that represents the amount of variable sound energy received by a receptor during a time interval. For example, a 1-hour L_{eq} measurement would represent the average amount of energy contained in all the noise that occurred in that hour. L_{eq} is an effective noise descriptor because of its ability to assess the total time-varying effects of noise on sensitive receptors. L_{max} is the highest root mean square (RMS) sound pressure level within the measuring period.

Unlike the L_{eq} metrics, L_{dn} and CNEL metrics always represent 24-hour periods, usually on an annualized basis. L_{dn} and CNEL also differ from L_{eq} because they apply a time-weighted factor designed to emphasize noise events that occur during the evening and nighttime hours (when speech and sleep disturbance is of more concern). "Time weighted" refers to the fact that L_{dn} and CNEL penalize noise that occurs during certain sensitive periods. In the case of CNEL, noise occurring during the daytime (7:00 a.m.–7:00 p.m.) receives no penalty. Noise during the evening (7:00 p.m.–10:00 p.m.) is penalized by adding 5 dB, while nighttime (10:00 p.m.–7:00 a.m.) noise is penalized by adding 10 dB. L_{dn} differs from CNEL in that the daytime period is defined as 7:00 a.m.–10:00 p.m., thus eliminating the evening period. L_{dn} and CNEL are the predominant criteria used to measure roadway noise affecting residential receptors. These two metrics generally differ from one another by no more than 0.5 dB to 1 dB and, as such, are often treated as equivalent to one another.

Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration can be a serious concern, causing buildings to shake and rumbling sounds to be heard. In contrast to noise, vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of vibration are trains, buses on rough roads, and construction activities, such as blasting, pile driving, and heavy earthmoving equipment.

Several different methods are used to quantify vibration. Peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. PPV is most frequently used to describe vibration impacts to buildings and is usually measured in inches per second. The root mean square amplitude is most frequently used to describe the effect of vibration on the human body and is defined as the average of the squared amplitude of the signal. Decibel notation is commonly used to measure root mean square. The decibel notation acts to compress the range of numbers required to describe vibration.

High levels of vibration may cause physical personal injury or damage to buildings. However, vibration levels rarely affect human health. Instead, most people consider vibration to be an annoyance that can affect concentration or disturb sleep. In addition, high levels of vibration can damage fragile buildings or interfere with equipment that is highly sensitive to vibration (e.g., electron microscopes). Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.

Sensitive Receptors

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would be considered noise and vibration sensitive and may warrant unique measures for protection from intruding noise. Sensitive receptors in the vicinity of the Park include residential uses located to the north and east of the Park, and two schools (Waldorf School of Orange County and Estancia High School) to the east. These schools are located 0.15 mile and 0.27 mile to the east, respectively of the eastern boundary of North Talbert (and are buffered from the Park by the western, mesa portion of Fairview Park). These sensitive receptors represent the nearest sensitive land uses with the potential to be impacted by construction and operation of the proposed project.

Existing Noise Conditions

Noise measurements were conducted in the vicinity of the Park on October 7, 2022, to characterize the existing noise levels. Table 4.13-2 provides the locations, dates, and times the noise measurements were taken. The noise measurements were taken using a Soft dB Piccolo sound level meter equipped with a 0.5-inch, pre-polarized condenser microphone with pre-amplifier. The sound level meter meets the current American National Standards Institute standard for a Type 2 (General Use) sound level meter. The accuracy of the sound level meter was verified using a field calibrator before and after the measurements, and the measurements were conducted with the microphone positioned approximately 5 feet above the ground.

Table 4.13-2. Measured Noise Levels

Receptors	Location	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
ST1	East of Park, at Fairview Park	10/07/2022	11:32 - 11:47 a.m.	48	57.1
ST2	East of Park, adjacent to residences along Nancy Lane	10/07/2022	11:59 a.m. - 12:14 p.m.	48.2	58.8
ST3	East of Park, at Vista Park and adjacent to residences along Pacific Avenue	10/07/2022	12:21 - 12:36 p.m.	54.8	62.5

Table 4.13-2. Measured Noise Levels

Receptors	Location	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
ST4	Northeast of Park, adjacent to residences along Sea Bluff Drive	10/07/2022	12:43 - 12:58 p.m.	50.8	66.4
ST5	East of Park, adjacent to residences along Starfish Court	10/07/2022	1:28 - 1:43 p.m.	57.4	73.9
ST6	East of Park, adjacent to residences along Balboa Street	10/07/2022	1:08 - 1:23 p.m.	50	67.2

Source: Appendix E.
Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibels; L_{max} = maximum sound level during the measurement interval.

Six short-term noise measurement locations (ST) were conducted in the vicinity of the Park, as shown in Figure 7: Noise Measurement Locations. The measured L_{eq} and maximum noise levels are provided in Table 4.13-2. The field noise measurement data sheets are provided in Appendix E. The primary noise sources at the sites identified in Table 4.13-2 consisted of traffic on local and distant roadways; other, secondary noise sources included distant aircraft, distant landscaping activity noise, birds and rustling leaves. As shown in Table 4.13-2, the measured sound levels ranged from approximately 48 dBA L_{eq} at measurement locations ST1 and ST2 to approximately 57 dBA L_{eq} at ST5.

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less-than-Significant Impact. Potential impacts related to the proposed project would be primarily related to construction of the proposed key improvements. Operation and maintenance of the proposed project would be much the same as under existing conditions, and substantial levels of noise would not be generated.

The City's General Plan Noise Element addresses land use compatibility. The Noise Element states that an exterior community noise equivalent level greater than 70 dBA is normally unacceptable for residential and recreational uses (City of Costa Mesa 2016d).

Noise from non-transportation sources is regulated by the City's Municipal Code, Title 13, Chapter XIII (City of Costa Mesa 2010). The City's Municipal Code establishes allowable hours for construction and exterior and interior noise standards. With the exception of emergency machinery or work, construction activities are allowable only on Monday through Friday, 7 a.m. to 7 p.m., and on Saturday 9 a.m. to 6 p.m. Construction activities are prohibited on Sunday and on specified federal holidays. Construction equipment, vehicles, and work are exempt from interior and exterior noise level standards, provided that construction activities take place within the allowable time period (City of Costa Mesa 2010).

Noise in residential areas is regulated by the exterior noise standards in Table 4.13-3.

Table 4.13-3. City of Costa Mesa Exterior Noise Standards

Time of Day	Sound Level (dBA)
7 a.m. to 11 p.m.	55
11 p.m. to 7 a.m.	50
It is unlawful for noise levels to exceed:	
Noise level standards for a period of 30 minutes (cumulative) within a 1-hour period	
Noise level standards plus 5 dBA for a period of 15 minutes (cumulative) within a 1-hour period	
Noise level standards plus 10 dBA for a period of 5 minutes (cumulative) within a 1-hour period	
Noise level standards plus 15 dBA for a period of 1 minute (cumulative) within a 1-hour period	
Noise level standards plus 20 dBA for any period of time	

Source: City of Costa Mesa 2010.

Short-Term (Construction) Noise

The nearest sensitive receptors that would potentially be impacted by noise generated during construction of the proposed project are residential uses located at varying distances from the noise-generating activities associated with the various proposed project components (such as Balboa Boulevard access ramp, construction of the Nature Center, etc.). Outdoor uses at Fairview Park and the two nearby schools are more distant than the nearest sensitive receptors and therefore would experience fewer noise impacts than the nearest sensitive receptors as noise impacts decrease with distance.

Construction noise and vibration are temporary phenomena. Construction noise and vibration levels vary from hour to hour and day to day, depending on the equipment in use, the operations being performed, and the distance between the source and receptor.

Equipment that would be in use during construction would include, in part, graders, backhoes, concrete saws, rubber-tired dozers, loaders, cranes, forklifts, cement mixers, pavers, rollers, and air compressors. The typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet are presented in Table 4.13-4. Note that the equipment noise levels presented in Table 4.13-4 are maximum noise levels. Typically, construction equipment operates in alternating cycles of full power and low power, producing average noise levels less than the maximum noise level. The average sound level of construction activity also depends on the amount of time that the equipment operates and the intensity of construction activities during that time.

Table 4.13-4. Construction Equipment Maximum Noise Levels

Equipment Type	Typical Equipment (dBA at 50 Feet)
Air compressor	81
Backhoe	85
Concrete pump	82
Concrete vibrator	76
Crane	83
Truck	88
Dozer	87
Generator	78
Loader	84

Table 4.13-4. Construction Equipment Maximum Noise Levels

Equipment Type	Typical Equipment (dBA at 50 Feet)
Paver	88
Pneumatic tools	85
Water pump	76
Power hand saw	78
Shovel	82
Trucks	88

Source: FHWA 2008.
Notes: dBA = A-weighted decibels.

The maximum noise levels at 50 feet for typical construction equipment would be 88 dBA for the equipment typically used for this type of development project, although the hourly noise levels would vary. Construction noise in a well-defined area typically attenuates at approximately 6 dB per doubling of distance. Proposed project construction would take place both near and far from adjacent, existing noise-sensitive uses. For example, construction near the southern Park boundary would take place within approximately 30 feet of existing residences during Balboa Boulevard access improvement work, but during most of the construction of other proposed project components, construction would be several hundred feet away from noise-sensitive receptors.

A spreadsheet-based version of the Federal Highway Administration's Roadway Construction Noise Model (RCNM) (FHWA 2008) was used to estimate construction noise levels at the nearest occupied noise-sensitive land use. (Although the model was funded and promulgated by the Federal Highway Administration, the RCNM is often used for non-roadway projects, because the same types of construction equipment used for roadway projects are often used for other types of construction.) Input variables for the RCNM consist of the receiver/land use types, the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of hours the equipment typically works per day), and the distance from the noise-sensitive receiver. No topographical or structural shielding was assumed in the modeling. The RCNM has default duty-cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty-cycle values were used for this noise analysis.

Using the Federal Highway Administration's RCNM and provided construction information, the estimated noise levels from the major construction phases were calculated for the nearest noise-sensitive land uses, as summarized in Table 4.12-5. RCNM inputs and outputs are provided in Appendix E.

Table 4.13-5. Construction Noise Model Results Summary

Location / Project Component	Construction Activity	Nearest Receivers	Source to NSR Distance (ft.)	Predicted 1-hour L_{eq}
Overall Site	Site Preparation, Grading	Residences to E and N	50	**84**
Balboa Boulevard Access Improvements	Grading	Residences to E	50	**84**
Trail Alignment	Trail Alignment	Residents of E and N	50	**82**

Table 4.13-5. Construction Noise Model Results Summary

Location / Project Component	Construction Activity	Nearest Receivers	Source to NSR Distance (ft.)	Predicted 1-hour L_{eq}
15' Existing Trail, Raised 18"	Scraping, Grading	Residences to NE	150	**71**
4' Proposed Single Track Trail	Scraping, Grading	Residences to SE	1,360	**55**
Vegetative Thinning	Site Preparation	Residences to E	540	**62**
Existing Maintenance Yard with Proposed Lighting	Trenching	Residences to NE	780	**50**
Balboa Boulevard Access Ramp	Paving	Residences to E	50	**76**

Source: Appendix E

Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibel

As shown in Table 4.12-5, noise levels from proposed project construction would range from approximately 50 dBA L_{eq} during trenching work of the proposed 4-foot single track trail and trenching work for the proposed electrical services to the existing maintenance yard, to approximately 84 dBA L_{eq} during grading for the proposed Balboa Boulevard access improvements. As previously discussed, noise from construction activities is exempt from City of Costa Mesa noise ordinance standards, provided that the work takes place between the hours of 7 a.m. to 7 p.m. Monday through Friday and 9 a.m. to 6 p.m. on Saturdays. Construction activities are prohibited on Sundays and on specified federal holidays (City of Costa Mesa 2010). Construction work associated with the proposed project is not expected to occur outside the permitted hours. Thus, short-term noise from construction at nearby residential land uses and other sensitive receptor locations would have a less than significant impact.

Although it would constitute a less than significant impact, noise associated with construction of the proposed project has the potential to adversely affect adjacent noise-sensitive uses through annoyance and disruption of conversations. In order to minimize potential annoyance, the following Project Design Features (PDFs) will be implemented during construction. With the implementation of PDF-NOISE-1 impacts would be further reduced beyond the already **less than significant** levels that the proposed project is anticipated to generate. Accordingly, no project specific mitigation is required for noise generated during construction of the project.

PDF-NOISE-1 To minimize noise from project construction, the following procedures shall be followed:

- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers.
- Construction noise reduction methods, such as shutting off idling equipment, maximizing the distance between construction equipment staging areas and occupied sensitive receptor areas, and using electric air compressors and similar power tools rather than diesel equipment, shall be used where feasible.
- During construction, stationary construction equipment shall be placed so that noise is directed away from or shielded from sensitive noise receptors where feasible.
- During construction, stockpiling and vehicle staging areas shall be located as far as practicable from noise-sensitive receptors.

- Construction shall be restricted to weekdays between 7 a.m. and 7 p.m., and Saturdays between 9 a.m. and 6 p.m. No construction shall occur on Sundays or on federal holidays. Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow surrounding property owners and residents to contact the job superintendent. In the event that the City of Costa Mesa receives a complaint, appropriate corrective actions shall be implemented, and a report of the action shall be provided to the reporting party.

Long-Term (Operational) Noise

Less-than-Significant Impact. The proposed project includes the development of a Nature Center within the northeastern corner of the North Talbert parcel, replacing the existing restroom structure. The Nature Center would be approximately 500 square feet in size and constructed of concrete with a stucco finish and a metal roof. It would include indoor amenities such as a small classroom area, restrooms, and interpretive signage to serve as an educational resource for park visitors.

As part of the operational components of the Nature Center, heating, ventilation, and air conditioning (HVAC) systems would be installed. For purposes of this analysis, it is assumed that two (2) 2-ton Carrier condenser units would be utilized, each with a manufacturer-rated sound pressure level (SPL) of 68 dBA at 3 feet, based on typical product data (Carrier 2012). Please see Appendix E for quantitative details of the inputs and outputs that form the basis of the following assessment presentations.

An Excel-based outdoor sound propagation model was used to predict the operational noise associated with the Nature Center HVAC units, applying the following conservative assumptions:

- Treatment of exposed rooftop air-cooled condensing units as point-type sound emission sources; and
- Point-source sound propagation (i.e., 6 dB per doubling of distance) that conservatively ignores acoustic absorption from atmospheric and ground surface effects.

Based on preliminary measurements, the closest existing offsite noise-sensitive receptor to the proposed Nature Center site is approximately 1300 feet away At this distance, applying the 6 dB per distance doubling rule, the cumulative operational noise level from the two condenser units would reduce to well below 35 dBA L_{eq} at the nearest receptor. This is well below typical exterior daytime and nighttime noise standards, including the City's nighttime threshold of 50 dBA L_{eq} (City of Costa Mesa Municipal Code Section 13-280).

Additionally, the proposed Nature Center is located within a larger open space setting, further minimizing the potential for noise intrusions to nearby sensitive receptors. Given the limited scale of the Nature Center, the use of standard HVAC equipment, and the substantial distance to residential uses, operational stationary noise from the proposed Nature Center would result in a **less-than significant** impact.

Other noise associated with the proposed project is anticipated to be similar to existing conditions. Access to the regional park would be limited to 7:00 a.m. to sunset, seven days a week, as it is currently. Park capacity would not significantly increase with implementation of the project. Compared to the traffic volumes on the nearby arterial roadways (i.e., 28,000 average daily trips [ADT] on Victoria Avenue, 7,000 ADT on West 19th Street/Balboa Boulevard), the incremental increase in traffic noise would not be

measurable or audible. Additionally, maintenance activities (such as trail maintenance, trash pickup and facilities repairs) would not differ significantly from the activities conducted currently. Therefore, operational noise as a result of the proposed project would be **less than significant** and no project specific mitigation is required.

b) Would the project result in generation of excessive ground borne vibration or ground borne noise levels?

Less than Significant Impact. The proposed project includes access improvements, infrastructure improvements, and habitat restoration activities that would occur within the existing boundaries of the Park. Construction activities may expose people to excessive ground borne vibration or ground borne noise, causing a potentially significant impact. Caltrans has collected ground borne vibration information related to construction activities (Caltrans 2020). Information from Caltrans indicates that continuous vibrations with a peak particle velocity of approximately 0.1 inch/second begin to cause annoyance. Heavier pieces of construction equipment, such as bulldozers, have peak particle velocities of approximately 0.089 inch/second or less at a distance of 25 feet (FTA 2018).

Ground borne vibration typically attenuates over short distances. At the distance from the nearest noise or vibration-sensitive land use (residences to the east of the Balboa Boulevard Access Improvements proposed project component) of approximately 50 feet and with the anticipated construction equipment, the peak particle velocity would be approximately 0.031 inch/second. At the closest sensitive receptors, vibration levels would be less than the vibration threshold of potential annoyance of 0.1 inch/second. Most construction would take place at distances of several hundred feet away from the nearest noise or vibration-sensitive land uses, and the vibration levels would be substantially lower; at a distance of 300 feet for example, the resultant vibration level from typical heavy construction equipment would be approximately 0.002 inch/section.

Construction can also affect nearby buildings by inflicting damage from vibration. However, construction vibration associated with this proposed project would not result in structural building damage. Building damage typically occurs at vibration levels of 0.5 inch/second or greater for buildings of reinforced-concrete, steel, or timber construction. The heavier pieces of construction equipment used for this proposed project would include backhoes, front-end loaders, and flat-bed trucks. Pile driving, blasting, or other special construction techniques would not be used for construction of the Project; therefore, excessive ground borne vibration and ground borne noise with the potential to adversely affect nearby buildings would not be generated. Once operational, the proposed project would not generate perceptible ground borne vibration. As such, no building damage would be expected to occur as a result of project-related vibration during construction or operation, and impacts would be **less than significant**. No project specific mitigation measures are required.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. No private airstrips exist in the vicinity of the Park. The closest public airport to the Park is John Wayne Airport, which is located approximately 4.4 miles northeast of the Park. According to the Airport Environs Land Use Plan for John Wayne Airport, the proposed project outside the airport planning area is located approximately 3 miles away from the airport's 60 dBA CNEL noise contour (ALUC 2008). The Park is located outside of any airport impact zones, and as such, the project, which entails access improvements,

infrastructure improvements, and habitat restoration activities that would occur within the existing boundaries of the Park, would not result in a safety hazard for people residing in the proposed project area. Therefore, **no impacts** associated with exposing people residing or working in the proposed project to excessive noise levels would occur. Accordingly, no project specific mitigation is required.

4.14 Population and Housing

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING – Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a) ***Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?***

No Impact. The proposed project is a Master Plan document with the purpose of guiding the future improvement and maintenance of Park. The proposed project does not include the development of new homes or businesses; therefore, it would not directly induce substantial unplanned growth. The proposed project includes specific improvement projects (such as a new nature center, new and elevated trails, and new access into the park) as well as continuance of site-wide improvement programs (such as non-native plant removal) that would support the long-term goals of resiliency, safety, and accessibility. The proposed improvements would not expand or shrink the size of the existing Park facility, nor would they include the extension of existing roads. Existing access would be improved as part of the proposed project but would not be expanded beyond the Park boundaries. Similarly, electrical service would be extended from the existing restrooms to the existing maintenance yard, but this service would be utilized by the park only. Furthermore, the Park would continue to serve the nearby population, it would not introduce new services that would draw additional population to the area, either because of recreational opportunities or employment opportunities. As such, the proposed project would not indirectly induce substantial unplanned population growth and there would be **no impact**. Accordingly, no project specific mitigation is required.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The proposed project would result in physical construction of proposed improvements within the boundaries of the existing Park facility. It would improve existing features of the Park and support resiliency efforts for the future maintenance of the Park. The proposed project would not remove housing or otherwise displace substantial numbers of existing people or housing. Thus, there would be **no impact,** and no project specific mitigation is required.

4.15 Public Services

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☐	☒

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire protection?

Less than Significant Impact. The proposed project would improve features within the existing Park facility to provide improved experiences for Park visitors. The proposed improvements include trails and improved emergency access from Balboa Boulevard to better accommodate emergency vehicles. Helispots are currently located in two areas in South Talbert and would be maintained as part of the proposed project.

The Park is served by the Costa Mesa Fire Department (Costa Mesa Fire & Rescue); the closest fire stations to the Park are Fire Station 4, located at 2300 Placentia Avenue, approximately 0.70 miles to the east of North Talbert, and Fire Station 3, located at 1865 Park Avenue, approximately 1.40 miles southeast of South Talbert. The Costa Mesa Fire Department would respond to medical or fire-related emergency events at the Park. Based on the anticipated average visitorship of 35 people a day, the proposed project is not expected to result in an increase in visitors to the Park and thus would not be expected to result in more emergency events that require fire department response than occur under current conditions. Therefore, as the Park is an existing recreational

facility/open space and the proposed project includes select access improvements, infrastructure improvements, and habitat restoration activities, the proposed project would not require the physical development of new or altered fire stations in order to maintain service ratios or response times. In addition, construction of the proposed project would not require the partial or full closure of roadways and would not prevent emergency access to the Park or the surrounding area. Should partial lane closure be required during construction of the Balboa Boulevard Access Improvement, the contractor would be required to prepare an appropriate Traffic Control Plan to safely guide traffic through the area. The impact would be **less than significant,** and no project specific mitigation is required.

Police protection?

Less than Significant Impact. The Park is served by the Costa Mesa Police Department (CMPD). The closest police station is located at 99 Fair Drive approximately 2.25 miles east of North Talbert. Patrol officers of the CMPD would respond to criminal or emergency events at the Park. Because the number of daily visitors is not anticipated to increase as a result of the proposed project, it is not anticipated there would be an increase in demand for police protection at the Park. As such, the proposed project, which entails access improvements, infrastructure improvements, and habitat restoration activities within the Park boundaries, would not require physical development of new or expanded police facilities to maintain service ratios or response times. The impact would be **less than significant,** and no project specific mitigation is required.

Schools?

No Impact. The proposed project does not include school facilities or residents that would contribute to demand for school services. The proposed project, which entails access improvements, infrastructure improvements, and habitat restoration activities within the Park boundaries, would not induce population growth such that there would be higher demand for schools in the surrounding area. Therefore, the proposed project would not require the physical development of schools. There would be **no impact,** and no project specific mitigation is required.

Parks?

Less than Significant Impact. The Park is itself a park and the proposed project is a master plan including physical improvements meant to enhance the facilities and improve the visitors' experience at the Park. This IS/MND documents the potential for the proposed project to result in substantial adverse physical effects from the physical development of facilitates and components of the Park. As described in Sections 4.4, 4.5, 4.7, and 4.18 there would be potential physical impacts to biological, cultural, paleontological, and tribal cultural resources. However, with the implementation of the proposed mitigation measures as described in these sections, impacts would be reduced to a less than significant impact. The proposed project would not result in significant impacts related to all other environmental resource areas analyzed in this IS/MND.

There are also three nearby park facilities operated by the City of Costa Mesa: Canyon Park, Vista Park and Fairview Park. Canyon Park is east of South Talbert, adjacent to a residential area situated atop of a mesa. Vista Park is adjacent to Victoria Street at the southern tip of North Talbert. Fairview Park is adjacently east of North Talbert. Because the attendance at the Park is not expected to change as a result of the proposed project, it is not anticipated there would be any indirect effects on nearby park facilities, such as increased demand due to

additional visitors in the area. In addition, the Park would remain open during construction, so would not result in displaced park patrons that would choose to visit a nearby park instead.

As such, there would be **less than significant impacts** related to physical development of new or expanded Park facilities. Accordingly, no project specific mitigation is required.

Other public facilities?

No Impact. Other public facilities would include libraries and other recreational facilities. As previously stated, because the population is not expected to change as a result of the proposed project, and it would not displace patrons, there would be no adverse effects related to the physical development of new or expanded other public facilities. There would be **no impact,** and no project specific mitigation is required.

4.16 Recreation

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less than Significant Impact. The proposed Park is a regional park facility, and it is located near city-owned park facilities and bike trail facilities. The proposed project would involve the construction and implementation of key improvements and infrastructure improvements, which would enhance the Park patrons' experience and improve habitat quality and resiliency. The Park would remain open during construction, so patrons would continue to use the facility, and would not seek out other nearby park facilities such as Canyon Park, Vista Park and Fairview Park. It is not anticipated that other nearby park facilities would experience an increase in visitors due to the construction of the project.

During project operation, the proposed project would provide improved facilities and would not anticipate an increase in use of the Park. Therefore, the proposed project would not result in substantial physical deterioration of a facility, and impacts would be **less than significant**. Accordingly, no project specific mitigation is required.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

Less than Significant Impact. The Park is a regional park and includes the construction and implementation of key improvements and infrastructure improvements as part of an update to the Park's Master Plan. This IS/MND documents the potential for the proposed project to result in adverse physical effects on the environment from the construction or expansion of recreational facilitates and components of the Park. As described in Sections 4.4, 4.5, 4.7, and 4.18 there would be potential physical impacts to biological, cultural, paleontological, and tribal cultural resources. However, with the implementation of the mitigation measures as described herein, in addition to the design features built into the proposed project, impacts would be reduced to a less than significant level. The proposed project would not result in significant impacts related to all other environmental resource areas analyzed in this IS/MND. As such, the impact would be **less than significant,** and no project specific mitigation is required.

4.17 Transportation

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION – Would the project:				
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

The section addresses the significance of thresholds for transportation. This section analyzes the potential impacts of the proposed project based on CEQA Guidelines Section 15064.3(b), which focuses on the currently adopted vehicle miles traveled metric for determining the significance of transportation impacts. The passage of Senate Bill (SB) 743 required the focus of transportation analysis change from level of service (LOS) or vehicle delay to VMT. The Park is located in County of Orange; therefore, the project's VMT analysis is based on the County of Orange Transportation Implementation Manual (County of Orange 2021) and the Office of Land use and Climate Innovation's (LCI) Technical Advisory on Evaluating Transportation Impacts under CEQA (State of California Governor's Office of Planning and Research 2018). Note that the County's Transportation Implementation Manual is also provided as Appendix I to this MND.

The Project's transportation analysis is contained solely within this section. No technical memorandum has been prepared as the Project's temporary increase in VMT during construction would not be significant. Further and as explained below in Threshold b, proposed project operations would generate less than 500 trips per day and pursuant to the County of Orange Transportation Implementation Manual, preparation of a detailed VMT analysis is not required if a project generates less than 500 average daily trips and impacts can be presumed to be less than significant. In addition, as operation of the proposed project would be screened out of VMT analysis per the County's "Small Project" screening threshold, the County's VMT Screening Application is not applicable to the project.

a) Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than Significant Impact. The Transportation Element of the Orange County General Plan (County of Orange 2025a) contains County policies on the development of transportation facilities necessary to accommodate the County's orderly growth. It includes goals, policies and implementation procedures for the Circulation Plan, Bikeways Plan, and Scenic Highways Plan in the County. The proposed project components include construction of a 500 square feet Nature Center, Balboa Boulevard emergency vehicle entrance (and improved stairwell off Balboa Boulevard), infrastructure improvements including trail improvements and habitat restoration activities. The proposed project would improve emergency and ADA access and enhance visitor experience for existing Park users. The proposed project does not propose any changes to the circulation system which would conflict with the County's Transportation Element or any program, plan or policy addressing the circulation system.

Roadway, Transit, Bicycle, and Pedestrian Facilities

The Park is encompassed by an existing roadway system which comprises of Victoria Street, Hamiton Avenue, Brookhurst Street, Placentia Avenue and Balboa Boulevard. Pedestrian connections are available from Fairview Park, Vista Park, from Arbor Street by traversing through Canyon Park, Victoria Street and via the Santa Ana River Trail Footbridge connecting to the Banning Channel Bikeway. On-site parking is not available and is not proposed for the Park as part of this project. There is limited street parking available for South Talbert along Balboa Boulevard at the terminus of West 19th Street. The improvement of the existing Balboa Boulevard entrance would accommodate direct vehicular access for emergency and maintenance vehicles only and would provide access to bikes and pedestrians.

The Orange County Transportation Authority (OCTA) services the Orange County regional area. Currently, Route 35 and Route 47, and Route 55 provide daily service to locations near the Park. Both routes have weekday and weekend service, with headways ranging from 30 minutes in the weekday peak period, to 90 minutes on Sundays. The closest bus stops to the proposed project are Pacific Avenue/Victoria Street (Route 35) and Placentia Avenue/19th Street (Routes 47 and 55). These stops are located approximately 0.35 miles to the east and 0.75 miles to the east, respectively, of the Park's eastern boundary (OCTA 2026).

Bicyclists and multi-modal users are able to access the South Talbert and wider Talbert Regional Park via the existing Banning Channel Bikeway that follows the Santa Ana River. Pedestrians are able to likewise access the site from sidewalks located along either side of Victoria Street. Other off-site pedestrian connections include a stairway within Fairview Park adjacent to the northeastern boundary in North Talbert. Canyon Park also includes a trail connection to South Talbert at the far side of Balboa Street. The South Talbert pedestrian circulation route would be improved as a raised, 15-foot-wide trail. Additionally, a new

4-foot-wide, 200-foot long, single-track trail (not raised) in North Talbert and a new, 15-foot wide, 2,020-foot-long trail (raised) in South Talbert is proposed to enhance connections within the existing network by providing formalized access to the existing Victoria Pond, more direct access to the nearby Banning Channel Bikeway. A new access ramp connecting the new, east-west trail in South Talbert to the Banning Channel Bikeway would also be constructed. This enhanced system would also accommodate requirements for both ADA and emergency access.

Therefore, the proposed project would involve the improvement of existing trails for pedestrian and bicyclist use throughout the site. These trails would temporarily be closed during improvements; however, trail improvements would occur in phases, and detours via other trails within the site will be provided. The proposed project would not result in closure or obstruction of the Banning Channel Bikeway, or pedestrian facilities outside of the Park. The proposed project would not affect the nearby bus stops or bus routes adjacent to the Park, because the proposed project would not result in construction activities within existing roadways. However, if any construction work affects the public right-of-way, encroachment and/or traffic control permits would be obtained by the contractor to ensure that access for all road users is maintained at all times.

The proposed project would not preclude implementation of any plans or policies regarding existing or proposed bicycle or pedestrian facilities in the area. As such, the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, and impacts would be **less than significant**. Accordingly, no project specific mitigation is required.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less than Significant Impact. CEQA Guidelines Section 15064.3(b) focuses on the metric of vehicle miles traveled (VMT) pursuant to SB 743 for determining the significance of transportation impacts. The related updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018. As stated in CEQA Guidelines Section 15064.3(c), the provisions of Section 15064.3 shall apply prospectively, and have been implemented statewide by July 1, 2020.

The CEQA Guidelines state that "generally, VMT is the most appropriate measure of transportation impacts" and define VMT as "the amount and distance of automobile travel attributable to a project." It should be noted that "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. LCI has clarified in the Technical Advisory and recent informational presentations that heavy-duty truck VMT is not required to be included in the estimation of a project's VMT. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Based on the Technical Advisory (State of California Governor's Office of Planning and Research 2018), the County's Transportation Implementation Manual (TIM) has adopted VMT specific guidelines, screening criteria and thresholds (County of Orange 2021). While not applicable to the proposed project due to the Park being managed and operated by the County, the City of Costa Mesa's Transportation Impact Analysis Guidelines allows City staff to confirm the screening potential of a development project (City of Costa Mesa 2020). Regarding the County TIM and City's TIA Guidelines, a project that meets at least one of the screening criteria would be presumed to have a less than significant VMT impact due to project characteristics and/or location. Pursuant to the County's TIM, the operation of the proposed project would be screened out of VMT analysis per "Small Project" screening threshold also explained below. The potential VMT generated by the short-term construction of the proposed project has been evaluated qualitatively per LCI guidance. Pursuant to the City's TIA Guidelines, the operation of the proposed project would be screened out of VMT analysis per the "Step 3: Project Type Screening" due to the proposed project generating less than 110 daily vehicle trips (see Section 4.15, above).

Construction of this component would generate temporary construction-related traffic for a period of 7 months, and nominal maintenance traffic. As mentioned above, heavy vehicle traffic is not required to be included in the estimation of a project's VMT. Even though worker and vendor trips would generate VMT, once construction is completed, the construction-related traffic and VMT would cease and return to pre-construction conditions. The increase in VMT associated with the projects' construction is expected to be temporary and would therefore not cause a significant VMT impact. Additionally, the Air Quality analysis accounts for the worker and truck trips and VMT generated during the construction period (see Table 2-1 and Section 4.3). Once construction is complete, this proposed project is anticipated to entail occasional maintenance activities which would be same as existing conditions. Under existing conditions, the Park has one permanent employee who would continue to monitor visitor activities, conduct repairs, and collect trash, same as existing conditions.

Per the Technical Advisory (State of California Governor's Office of Planning and Research 2018), projects that "generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than significant" impact. Per County's TIM (County of Orange 2021) and substantial evidence included in its Attachment B, projects generating less than 500 trips per day are not required to conduct a detailed VMT analysis and impacts can be presumed to be less than significant. The Nature Center would primarily serve as an educational center for existing park visitors and may occasionally attract new visitors, however the new daily trip generation would be nominal and not exceed the threshold of small project screening. The Balboa Boulevard Entrance and other infrastructure improvements would improve emergency access, pedestrian circulation, ADA access, and wayfinding. These proposed project components would improve existing access and park user experience; and would not result in increasing the number of new daily trips or VMT.

Therefore, the construction and operation of the proposed project would not conflict or be inconsistent with CEQA Guidelines Sections 15064.3(b)(1) and 15064.3(b)(3) and impacts would be **less than significant**. Accordingly, no project specific mitigation is required.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than Significant Impact. The access to South Talbert is through two access points, one located on Balboa Boulevard, and one on Victoria Street. There are also three access points for bicyclists and pedestrians along the Banning Channel Bikeway. Access to North Talbert is available through Fairview Park, Vista Park, and Victoria Street. There are several existing access points along the Banning Channel Bikeway including one access point from the Santa Ana River Trail Footbridge. With the exception of the entrance ramp for emergency access at Balboa Boulevard, the proposed project does not propose constructing any new roadways or intersections.

Construction of the Nature Center, the Balboa Boulevard access improvements, and other infrastructure improvements would generate temporary construction trips by workers and haul trucks over a period of 7 months. Construction activities are not anticipated to require road closures in public rights-of-way; if needed, encroachment and/or traffic control permits would be implemented to ensure safe access and movement of all road users. Construction staging within the Park would ensure access to bicyclists and pedestrians is maintained to the extent feasible, appropriate signage shall be installed, and detours provided at appropriate locations near construction zones.

The proposed project does not propose any incompatible use in the area. The proposed project would not result in an increase in hazards due to a geometric design feature. Impacts would be **less than significant**. Accordingly, no project specific mitigation is required.

d) Would the project result in inadequate emergency access?

Less than Significant Impact. Construction of the proposed project, which entails access improvements, infrastructure improvements, and habitat restoration activities, is not anticipated to require road closures in public rights-of-way. Construction staging would occur within the Park. However, prior to commencing work, if needed, encroachment and/or traffic control permits would be obtained by the applicant to ensure that adequate emergency access for all road users is maintained. The proposed project would be designed and constructed to local standards and comply with emergency access requirements of the fire department. Upon completion, the Park will continue to be accessible via the existing emergency and maintenance only vehicular access, and non-vehicular access points. Emergency access to the proposed project would be improved with the addition of the proposed Balboa Boulevard Entrance Ramp shown in Figure 4. Therefore, the construction or operation of the proposed project would not result in inadequate emergency access and impacts would be **less than significant**. Accordingly, no project specific mitigation is required.

4.18 Tribal Cultural Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES				
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

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

No Impact. As discussed in Section 4.5, Cultural Resources, ten previously recorded cultural resources and two historic built environment resources were recorded within the 0.5-mile records search radius; however, none are within the Park. Therefore, **no impacts** associated with historical resources listed or eligible for listing in the CRHR or in a local register of historical resources would occur. Accordingly, no project specific mitigation is required.

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

Less than Significant Impact. On October 9, 2019, Dudek (on behalf of OC Parks) requested a Sacred Land File search from the NAHC (Appendix C). On October 23, 2019, the NAHC responded to the request indicating the result of the Sacred Land File search was positive and suggested OC Parks contact 17 tribes that may have interest in or knowledge of tribal cultural resources in the proposed project area. These tribes or tribal representatives include the Agua Caliente Band of Cahuilla Indians, the Juaneno Band of Mission Indians, the Juaneno Band of Mission Indians Acjechemen Nation (two representatives), Juaneno Band of Mission Indians, the Gabrieleno Band of Mission Indians – Kizh Nation, the Gabrieleno/Tongva San Gabriel Band of Mission Indians, the La Jolla Band of Luiseno Indians, the Gabrielino Tongva Indians of California Tribal Council, the Pala Band of Mission Indians, the Pechanga Band of Luiseno Indians, the Rincon Band of Luiseno Indians (two representatives), the San Luis Rey Band of Mission Indians, the Soboba Band of Luiseno Indians, and the Pauma Band of Luiseno Indians. OC Parks led the AB 52 efforts and led consultation with these tribes.

On December 7, 2022, the OCPW sent 4 letters to tribes who have requested to be notified of projects initiated by the County. The contacts did not respond, except for the Gabrieleno Band of Mission Indians – Kizh Nation (Kizh Nation), who requested further consultation. A consultation teleconference call occurred between the Kizh Nation and the County on February 21, 2023. Consultation resulted in the inclusion of Standard Condition (SC) measure TRC-1 for the proposed project to ensure proper documentation of any off-site fill material used for the Project.

As a part of this effort, the County shall implement the following SCs, and those measures associated with Section 4.5 to ensure proper treatment of potential Tribal Cultural Resources:

SC TCR-1 Documentation of Fill Material. OCPW and OC Parks will document in the Project files the source of any off-site fill material used for the Project during construction.

SC TCR-2 Unanticipated Discovery of Native American Resources. If unanticipated tribal cultural resources, archaeological resources or deposits are discovered during ground-disturbing

activities, OC Public Works shall implement the following measures. All work shall halt within a 50-foot radius of the discovery. OC Public Works shall retain a qualified professional archaeologist with knowledge of Native American resources to assess the significance of the find. If the resources are Native American in origin, OC Public Works shall coordinate with the Tribe regarding evaluation, treatment, curation, and preservation of these resources. The archaeologist shall have the authority to modify the no-work radius as appropriate, using professional judgment in consultation with OC Public Works. Work shall not continue within the no work radius until the archaeologist conducts sufficient research and evidence and data collection to establish that the resource is either (1) not cultural in origin; or (2) not potentially eligible for listing on the California Register of Historical Resources. If a potentially eligible resource is encountered, then the archaeologist and OC Public Works, as lead agency, in consultation with the Tribe, shall arrange for either: (1) avoidance of the resource, if possible; or (2) test excavations to evaluate eligibility, and if eligible, attempt to resolve adverse effects through implementation of appropriate mitigation, which may include, but shall not be limited to, salvage excavation, laboratory analysis and processing, research, curation, and preparation of a report summarizing the find. The assessment of eligibility shall be formally documented in writing as verification that the provisions in the CEQA for managing unanticipated discoveries and Public Resources Code Section 5024 have been met.

4.19 Utilities and Service Systems

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less than Significant Impact. The proposed project includes access improvements, infrastructure improvements, and habitat restoration activities. Regarding expanded utilities, the proposed improvements to the maintenance yard would include the extension of electric service to provide lighting. This service would be extended from the existing restrooms in North Talbert. Due to the limited size and minor demand for electric services these improvements would cause, the proposed improvements would not require an increase in required capacity. The other key improvements would not require the connection to, or expansion of, water, sewer, or other utility infrastructure. Therefore, impacts to the local wastewater conveyance and treatment would be **less than significant** and no project-specific mitigation measures are required.

c) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less than Significant Impact. The Park is served by the Mesa Consolidated Water District, which is a member of the Metropolitan Water District of Orange County (MWDOC). MWDOC adopted the 2020 Urban Water Management Plan (UWMP), which identifies sources of municipal water, demand forecasts, and water supply reliability assessment. The 2020 UWMP finds MWDOC can meet water demand forecasts for normal water year, single dry water year, and multiple dry water years based on projected population growth and development in the service area (Municipal Water District of Orange County 2021).

Water usage during construction activities would be minor for dust control and equipment washing; and would be imported to the site with water trucks. The proposed project would not result in population growth or an increase in employment opportunities such that there would be an associated increase in water demand, beyond what is accounted for in the 2020 UWMP projections for 2025-2045. For example, the 2020 UWMP projects a total water demand of 495,958 acre-feet for fiscal year ending 2030 and 502,014 acre-feet for fiscal year ending 2035 (*Table 4-4: MWDOC's Service Area Total Potable and Non-Potable Demand Projections for 2025-2045*; Municipal Water District of Orange County 2021). Therefore, the proposed project would have sufficient water supplies to serve the proposed project during normal, dry, and multiple dry years and the impact would be **less than significant**. Accordingly, no project specific mitigation is required.

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less than Significant Impact. The proposed project includes access improvements, infrastructure improvements, and habitat restoration activities. The proposed project is served by the Costa Mesa Sanitary District (CMSD), which provides sewer services, and the Orange County Sanitation District (OCSD) which treats sewage. The OCSD's 2019 Strategic Plan assesses the projected demand for wastewater treatment facilities and capacity. The wastewater treatment plants operated by the OCSD receive a combined average daily treatment capacity of 184 million gallons (OCSD 2025). The proposed project would not result in an increase in wastewater generation. The proposed project would not result in population growth or an increase in employment opportunities such that there would be a substantial increase in demand for wastewater treatment capacity. Therefore, the proposed project would be adequately served by the existing wastewater treatment facilities, and the impact would be **less than significant**. Accordingly, no project specific mitigation is required.

d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant Impact. CMSD provides solid waste services to the City. CMSD is required by the Integrated Waste Management Act of 1989 (AB 939) to divert at least 50 percent of all the City's solid waste and recycling from landfills. There are three solid waste landfill facilities that serve the County of Orange, located in Brea, Irvine, and San Juan Capistrano. The majority of waste in the City of Costa Mesa is likely disposed of at the Frank R. Bowerman Sanitary Landfill in Irvine. Frank R. Bowerman Sanitary Landfill has a maximum permit capacity of 266,000,000 cubic yards, with a remaining capacity of 205,000,000 (CalRecycle 2022).

The proposed project includes access improvements, infrastructure improvements, and habitat restoration activities. Construction activities are anticipated to generate a small amount of construction debris; however, with no demolition proposed beyond removal of the existing restrooms in North Talbert to accommodate the Nature Center, it is not anticipated the proposed project would result in generation of substantial solid waste during construction. Given that the proposed project would not result in an increase in visitors or add any new activities that would be anticipated to generate substantial amounts of solid waste, it is not anticipated the projected solid waste generation would increase compared to existing conditions at the Park. As such, the available capacity of the local solid waste facility would be sufficient for the operation of the proposed project. Additionally, the proposed project would not prevent the City or CMSD from meeting statewide waste-diversion goals. Impacts would be **less than significant,** and no project specific mitigation is required.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than Significant Impact. In addition to AB 939, there are several other state laws that regulate solid waste:

- AB 341 requires cities and counties to implement recycling programs, reduce refuse at the source, and compost waste to achieve the established 75 percent diversion of solid waste from landfills.

- AB 1826 requires businesses to recycle organic waste depending on the amount of waste generated per week.
- SB 1383 requires a 75 percent reduction of state-wide organic waste by 2025 in order to reduce associated greenhouse gases such as methane and other short-lived climate emissions.

The proposed project, which includes access improvements, infrastructure improvements, and habitat restoration activities, is anticipated to result in a small amount of construction-related solid waste and is not anticipated to result in an increase in solid waste generation during operation. Therefore, the proposed project would not conflict with, or prevent the City from achieving, the applicable regulations related to solid waste. Impacts would be **less than significant,** and no project specific mitigation is required.

4.20 Wildfire

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

In support of the analysis presented below, Dudek prepared a Fire and Fuel Modification Assessment for the proposed project (see Appendix F).

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Less-than-Significant Impact. As discussed in response to Threshold 4.9 f), construction of the proposed project would require temporary closure of the affected areas within the Park. Construction of the proposed project would not require the partial or full closure of roadways and would not prevent emergency access to the Park or the surrounding area.

The County and City of Costa Mesa have adopted Local Hazard Mitigation Plans that include measures to mitigate the risks of natural disasters. Additionally, the County General Plan Safety Element includes a map of Very High Fire Hazard Severity Zones and Evaluation Routes within the Unincorporated Areas and the nearest County identified evacuation route to the Park is Highway 1 (State Route 1) which is approximately 0.88 mile south of the Park's southern boundary (County of Orange 2025b).While the County General Plan Safety Element includes evacuation-related policies applicable to residential development or development/areas immediately surrounding facilities storing, handling, or processing nuclear materials, these policies are not directly applicable to the proposed project as it is a recreational/Park use that is not adjacent to a facility handling nuclear material (County of Orange 2025b). The City's General Plan Safety Element includes a map of emergency evacuation route (see *Figure S-9: Public Safety Facilities and Emergency Evacuation Route*s; City of Costa Mesa 2015). The nearest City-identified evacuation route is Adams Avenue which is located approximately 0.33 miles to the north of the northern boundary of North Talbert (City of Costa Mesa 2015).

Implementation of the proposed project would not interfere with the Local Hazard Mitigation Plan or local emergency access. The proposed project would not add a substantial volume of traffic to local area roads and its continued use as a park facility would not introduce any new hazards or hazardous conditions during operations. Therefore, impacts would be **less than significant,** and no project specific mitigation is required.

b) Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less than Significant Impact. The Park is not located in a Very High Fire Hazard Severity Zone (VHFHSZ), which has been designated by CAL FIRE based on factors such as fuel, terrain/slope, weather and other relevant factors (CAL FIRE 2025). The Parkis within a mapped HFHSZ (North Talbert) and a Moderate FHSZ (South Talbert) (CAL FIRE 2025). Within the Park, above sea level elevations range from approximately 62 feet within North Talbert to 8 feet within South Talbert. Bluffs rise approximately 80 feet above the Park along its northern and eastern boundaries, and the western portion of the Park is bordered by the concrete-lined Santa Ana River and Banning Channel.

The Park is generally covered with vegetation. The prevailing wind direction in the proposed project area for the majority of the year is from the west, with average monthly wind speeds ranging from 5.3 to 7.5 mph (WeatherSpark 2022). Average wind conditions in the proposed project area exhibit mild seasonal variation, and wind conditions at any given location may vary depending on topography and other factors. The proposed project area is subject to seasonal Santa Ana winds, which typically present the highest fire danger. There has been one wildfire on the Park that occurred in 2010; however there have been no other wildfires within a 5-mile radius, or within the City (CAL FIRE 2022).

The proposed project does not include permanent occupants, but the Park would be temporarily occupied during construction activities by construction workers. The construction of the proposed project would not influence prevailing winds or other factors that could exacerbate wildfire risk. However, the proposed project construction would introduce potential ignition sources to the Park including the use of vehicles, heavy machinery, and accidental human-caused ignitions or any potential hot work. Construction would include site preparation, grading, trenching, and construction of various improvements. The proposed project would be conducted in accordance with the local and state regulations governing fire protection and safety. The proposed project would comply with the California Fire Code and the California Building Code as modified and amended by the City to limit the potential for accidental ignitions related to construction activities.

Operation of the Park would include one permanent park employee, occasional maintenance trips and patrons using the Park for recreation. As stated in the Fire and Fuel Modification Assessment prepared for the proposed project (see Appendix F), given the climatic, vegetative, topographic characteristics, and local fire history of the area, the proposed project site is determined to be subject to periodic wildfires that may start on, burn toward, or spot onsite. However, as the proposed project is a Master Plan document and involves improvements to the existing Park (and would not involve a change to the existing uses), proposed Park improvements would exacerbate wildfire risks or expose Park occupants/users to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Impacts would be **less than significant**. Accordingly, no project specific mitigation is required.

c) Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less than Significant Impact. The proposed project would involve improvements to and operation of an existing park. Specifically with regard to infrastructure, the proposed project includes improvements to existing trails and extension of electrical utilities to the existing yard as applicable via underground conduits. Construction of associated infrastructure would be conducted in accordance with local and state regulations governing fire safety.

Construction and operation of the proposed project would not directly require new or expanded infrastructure other than that which is planned as part of the project. As discussed in Section 4.19, no new water/wastewater facilities, or other service utilities beyond the in-park extension of electrical service to the maintenance yard would be required for the project. The activities involved with the installation or maintenance of associated infrastructure would require ground disturbance and the use of heavy machinery associated with trenching, grading, site work, and other construction and maintenance activities. However, the proposed project would be required to comply with all mitigation measures outlined within this IS/MND and contractors would utilize best practices to ensure the safe and efficient operation of heavy construction machinery and compliance with federal and state regulations governing the safe operation of construction equipment (including 29 CFR Part 1926 and Cal/OSHA Title 8, Subchapters 4, 5, and 7). No adverse physical effects beyond those already disclosed and mitigated would occur as a result of the implementation of the project's associated infrastructure. Therefore, with compliance with regulatory requirements, the installation and maintenance of associated infrastructure would not exacerbate wildfire risk or result in impacts to the environment beyond those already disclosed throughout this document, and impacts would be **less than significant**. Accordingly, no project specific mitigation is required.

d) Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less than Significant Impact. The Park is located within a liquefaction zone, as mapped by the California Department of Conservation (DOC 2022). The Park and surroundings are generally flat and not located in a landslide zone, as mapped by the California Department of Conservation (DOC 2022). However, the project, which includes access improvements, infrastructure improvements, and habitat restoration activities, does not include activities that would induce post-fire instability, such as prescribed burning.

Although, the Park is within a mapped HFHSZ (North Talbert) and a Moderate FHSZ (South Talbert) (CAL FIRE 2025), the Park and surrounding areas are relatively flat with bluff terrain occurring to the immediate east of the Park boundary. Proposed project improvements would be subject to the California Fire Code and the California Building Code. Additionally, the proposed project area would remain similar to existing conditions and would not include large expanses of exposed soil and has not been exposed to any wildfires within a 5-mile radius, or within the City (CAL FIRE 2022). Therefore, impacts associated with an increase in risk of flooding, landslides, or post-fire slope instability would be **less than significant**. Accordingly, no project specific mitigation is required..

4.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than Significant Impact With Mitigation Incorporated. The proposed project is a Master Plan document and includes access improvements, infrastructure improvements, and habitat restoration activities that would primarily occur within the existing boundaries of the Park (a new access ramp to the Banning Bikeway would occur offsite but immediately adjacent to the Park boundary).

As discussed in Section 4.4, through implementation of MM-BIO-1 through MM-BIO-6, the project would not result in significant impacts to biological resources. Specifically, MM-BIO-1 requires the replacement (at a minimum 1:1 ratio) of existing populations of southern tarplant (a rare plant pursuant to CRPR 1B.1) that are proposed to be impacted by the proposed project and MM-BIO-2 requires pre-construction clearance surveys for burrowing owl (a candidate for potential listing as a protected species under the California Endangered Species Act). If necessary based on observed presence of the specie prior to construction, MM-BIO-2 includes implementation of additional avoidance and mitigation measures to ensure adequate protection. MM-BIO-3 requires a pre-construction clearance survey and if necessary based on observed presence of special-status avian species protected under the Migratory Bird Treaty Act and State Fish and Game Code including Cooper's hawk, California gull, double-breasted cormorant, white-faced ibis, Costa's hummingbird, rufous hummingbird, white-tailed kite, prairie falcon, osprey, yellow warbler, and yellow breasted chat prior to construction, additional avoidance measures including but not limited to the establishment of buffers around known locations of identified special status species. Similarly, MM-BIO-4 requires a pre-construction nesting bird survey and if necessary based on observed presence of nesting migratory birds prior to construction, additional avoidance measures including but not limited to the establishment of buffers around nests. Furthermore, MM-BIO-5 requires the restoration and enhancement of Project-impacted vegetation communities and land cover types that are considered sensitive by CDFW at a minimum 1:1 ratio and MM-BIO-6 requires the Applicant obtaining regulatory permits through which direct impacts to federal and state regulated waters would be mitigated via on-site restoration of habitat or purchase of off-site mitigation credits.

As discussed in Section 4.5, through implementation of MM-CUL-1, MM-CUL-2, and RCM CUL-1, the proposed project would not result in significant impacts to cultural resources. MM-CUL-1 would require the preparation of a Worker Environmental Awareness Program (WEAP) that would inform all personnel working on the proposed project about the archaeological sensitivity of the area. MM-CUL-2 establishes formal halt work protocol (and additional measures) to adhere to should earthmoving activities encounter any cultural resources. Lastly, RCM-CUL-1 formally establishes protocol (including a stop work issuance within 50 feet of the discovery) that would be implemented should human remains are encountered on the Park during construction activities

In addition, and as discussed in Section 4.7, through implementation of MM-GEO-1 that consists of the preparation of a Paleontological Resources Impact Mitigation Program by a certified Orange County paleontologist, the proposed project would not result in significant impacts to paleontological resources. Specifically, the Paleontological Resources Impact Mitigation Program would outline requirements for preconstruction meeting attendance and worker environmental awareness training, and identify where monitoring is required within the Park based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, paleontological methods (including sediment sampling for microfossils), reporting, and collections management

Lastly and through consultation to area tribes, the County determined that implementation of SC TCR-1 and SC TCR-2 (and those measures associated with Section 4.5) would appropriately lessen potential for impacts to tribal cultural resources. Specifically, SC-TCR-1 requires the formal documentation of any off-site fill material used for the proposed project during construction and similar to MM-CUL-2, SC-TCR-2 establishes formal protocol that would be triggered should unanticipated native American resources be discovered/encountered during proposed project construction.

Therefore, with mitigation and conditions incorporated, the proposed project would not degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Less than Significant Impact with Mitigation Incorporated. When evaluating cumulative impacts, it is important to remain consistent with Section 15064(h) of the CEQA Guidelines, which states that an EIR must be prepared if the cumulative impact may be significant and the project's incremental effect, though individually limited, is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Alternatively, a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable through mitigation measures set forth in an MND or if a project will comply with the requirements in a previously approved plan or mitigation program (including, but not limited to, water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, plans or regulations for the reduction of greenhouse gas emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which a project is located.

The proposed project, which includes access improvements, infrastructure improvements, and habitat restoration activities primarily within the existing boundaries of the Park, would result in project-related biological resources, cultural resources, geological resources, and tribal cultural resources impacts that could be potentially significant without the incorporation of mitigation and standard or regulatory compliance measures. . Identified comparable projects in the area (comparable in terms of use, scope, and anticipated impacts) are limited to (1) the draft Master Plan Update for Fairview Park and (2) the draft Resource Management Plan (and Public Access Plan) for the Randall Preserve/Genga (previously Banning Ranch). Fairview Park is located within the City of Costa Mesa and is adjacent to a portion of the eastern edge of North Talbert. The Randall Preserve/Genga is situated to the immediate south of South Talbert. Similar to the draft Master Plan for the Park, the draft Master Plans for Fairview Park and Randall Preserve/Genga envision passive recreation use via trail networks, habitat restoration and enhancement activities, and invasive plant management (City of Costa Mesa 2025b, Coastal Corridor Alliance 2025). However, unlike the Park and (likely) the Randall Preserve/Genga, Fairview Park has and will maintain parking facilities and a model glider and train area within park boundaries and thus, likely receives greater

visitorship that the two more passive parks. It should also be noted that neither the Master Plan for Fairview Park nor the Master Plan for the Randall Preserve/Genga has an accompanying CEQA document and as such, the construction timeframe for plan implementation (and potential for overlap for construction of select improvements at the Park) is unknown (and overlap is unlikely). Thus, when coupled with foreseeable biological resources, cultural resources, geological resources, and tribal cultural resources impacts related to the implementation of Master Plans (and focused improvement, if proposed) for Fairview Park and the Randall Preserve/Genga throughout the broader proposed project area, the proposed project would potentially result in cumulative-level impacts if these significant impacts are left unmitigated.

However, with the incorporation of mitigation and conditions identified herein, the project's biological resources, cultural resources, geological resources, and tribal cultural resources impacts would be reduced to less-than-significant levels and would not considerably contribute to cumulative impacts in the greater proposed project region. In addition, these other related projects would presumably be bound by their applicable lead agency to (1) comply with the all applicable federal, state, and local regulatory requirements; and (2) incorporate all feasible mitigation measures, consistent with CEQA, to further ensure that their potentially cumulative impacts would be reduced to less-than-significant levels.

Although cumulative impacts are always possible, by incorporating all mitigation measures outlined herein, the proposed project would reduce its contribution to any such cumulative impacts to less than cumulatively considerable. Therefore, the proposed project would result in individually limited, but not cumulatively considerable, impacts.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant Impact With Mitigation Incorporated. As evaluated throughout this document, with incorporation of mitigation and conditions, environmental impacts associated with the proposed project would be reduced to less-than-significant levels. Thus, the proposed project would not directly or indirectly cause substantial adverse effects on human beings. Impacts would be **less than significant with incorporation of mitigation**.

5 Mitigation Monitoring and Reporting Program

5.1 Introduction

CEQA requires a lead or responsible agency to adopt a mitigation monitoring and reporting program (MMRP) when approving or carrying out a project (Section 21081.6 of the California PRC). The purpose of this program is to ensure that the mitigation measures identified in an environmental document are implemented as detailed in the draft environmental document. As lead agency for the Project, Orange County Department of Public Works (OCPW) is responsible for implementation of this MMRP per the requirements of CEQA.

This MMRP was prepared to provide a consolidated monitoring guide to facilitate the implementation of the adopted mitigation measures and related compliance reporting. Once OCPW adopts the MMRP, the mitigation monitoring/reporting requirements will be incorporated into the appropriate permits and construction documents (i.e., engineering specifications, engineering and construction plans, etc.). In accordance with the aforementioned requirements, this MMRP lists each mitigation measure, describes the methods for implementation and verification, and identifies the responsible party or parties as detailed below in Section 5.3.

5.2 Monitoring and Reporting Procedures

The MMRP will be in place through all phases of the Project, including design, construction, and long-term management and will facilitate the implementation of mitigation measures proposed to avoid, minimize, or reduce significant environmental effects. OCPW will be responsible for administering the MMRP and ensuring that all parties, including Project contractors, comply with its provisions. OCPW also will ensure that monitoring is documented through systematic compliance verification and reporting and that deficiencies are promptly corrected.

5.3 Mitigation Monitoring and Reporting Program Implementation

This MMRP was prepared to verify compliance with individual mitigation measures proposed in the MND for the Project. Table 5-1 below identifies each mitigation measure by discipline and the entity responsible for its implementation. Certain inspections and reports may require preparation by qualified individuals and these are specified as needed. The timing and method of verification for each measure are also specified.

Table 5-1. Mitigation Monitoring and Reporting Program

Mitigation Measure, Project Design Feature, or Other Measure	Timing	Party Responsible for Monitoring and Enforcement	Verification	
			Initials	Date
PDF BIO-1. Sediment and erosion control measures would be developed and implemented in accordance with RWQCB Construction General Permit requirements to reduce the potential for the project to result in increased siltation of, or release of pollutants into creeks and their tributaries. Best management practice (BMP) categories employed would include erosion control, sediment control, and non-stormwater good housekeeping.	Prior to and as needed during construction. This measure shall be included in construction plans and specifications for implementation during construction.	OCPW		
PDF BIO-2. The footprint of disturbance would be limited to the maximum extent feasible, such as limiting access to via pre-existing access routes to the greatest extent possible. Parking, staging, storage, excavation, and disposal site locations would be confined to the smallest areas possible and be positioned at previously disturbed areas to the greatest extent practical.	Prior to and as needed during construction. This measure shall be included in construction plans and specifications for implementation during construction.	OCPW		
PDF BIO-3. To reduce fugitive dust resulting from project construction and to minimize adverse air quality impacts, the project would employ dust control measures in accordance with the Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction	During construction (in particular, ground-disturbing activities). This measure shall be included in construction plans and specifications for implementation during construction.	OCPW		
PDF BIO-4. To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 2 feet deep would be covered with tarp, plywood, or similar materials at the close of each working day to prevent animals from being trapped. Ramps may be constructed of earth fill or wooden planks within deep-walled trenches to allow for animals to escape. Before such holes or trenches are backfilled, they would be thoroughly inspected for trapped animals. If trapped animals are observed, escape ramps or structures would be installed immediately to allow escape. If the trapped animal	During construction.	OCPW		

Table 5-1. Mitigation Monitoring and Reporting Program

Mitigation Measure, Project Design Feature, or Other Measure	Timing	Party Responsible for Monitoring and Enforcement	Verification	
			Initials	Date
is injured and cannot use escape ramps or structures, a qualified biologist would be contacted to identify the appropriate next steps.				
PDF BIO-5. All construction pipes, culverts, and similar structures that are stored at the construction site for one or more overnight periods would be thoroughly inspected for burrowing owls and nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved. An option is to cap the ends of any stored pipes to prevent any animals from entering. If an animal is discovered inside a pipe, that section of pipe would not be moved until the project biologist or designated representative has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated out of harm's way by an approved biologist.	During construction.	OCPW and Project Biologist		
PDF BIO-6. The project will include a Habitat Restoration Plan which will guide the restoration activities for the project and will detail the proposed methods of restoration, including application type and planting palette. Additionally, the plan will include performance standards to assess the success of the project compared to baseline conditions and inform adaptive management. The Habitat Restoration Plan will be approved by the resource agencies to ensure compliance with allowed uses within the Central–Coastal Subregion NCCP/HCP Reserve and maintenance/improvement of habitat function for covered species.	Prior to and as needed during construction. This measure shall be included in construction plans and specifications for implementation during construction.	OCPW and Resource Agencies		
PDF BIO-7. No invasive non-native plant species shall be planted, seeded, or otherwise introduced as part of the project. Plant material shall be native species appropriate to the site. A qualified biologist shall review landscape plans before approval.	Prior to and as needed during implementation of Habitat Restoration Plan. This measure shall be included in construction plans and specifications for implementation during construction.	OCPW and Resource Agencies		

Table 5-1. Mitigation Monitoring and Reporting Program

Mitigation Measure, Project Design Feature, or Other Measure	Timing	Party Responsible for Monitoring and Enforcement	Verification	
			Initials	Date
PDF BIO-8. Equipment would be cleaned prior to transport to the Park to prevent potential non-native plant species and other foreign matter, such as sediment and debris, from entering the site.	During construction. This measure shall be included in construction plans and specifications for implementation during construction.	OCPW		
MM-BIO-1 Rare Plant Restoration. In order to replace individual southern tarplant populations on the Park, restoration activities as part of the project shall revegetate the site with both species at a minimum 1:1 ratio. For southern tarplant, the 1:1 ratio shall be calculated based on area occupied by the species. Revegetation can either be accomplished through seeding restoration areas with a native seed mix containing both species and/or planting container plants. Prior to project impacts, existing populations of both species that are proposed to be impacted will be identified and counted to determine the amount of seed or container plants needed and suitable area for plant establishment. The methods and quantity of the restoration effort for these two species will be included in the Restoration Plan for the project. The Restoration Plan shall include monitoring and maintenance procedures, performance standards to ensure self-sustaining populations have been established, and adaptive management/remedial measures if restoration is not successful.	Following completion of construction, or at the earliest possible time that is appropriate to achieve plant establishment.	OCPW		
MM-BIO-2 Burrowing Owl Pre-Construction Surveys. Prior to the start of grading and vegetation clearing activities within suitable habitat areas on the Park, a pre-construction clearance survey for burrowing owl shall be conducted according to survey protocol outlined in the 2012 CDFW Staff Report on Burrowing Owl Mitigation. A minimum of two surveys will be conducted within 14 days prior to the start of the project and another within 24 hours of initiating ground-disturbing activities. If burrowing owl is found on site additional avoidance and mitigation measures will be required. If burrowing owl occurs in an area that cannot be avoided by the project, additional land conservation and/or relocation may be required, which will be determined through consultation with CDFW.	Prior to the start of grading and vegetation clearing activities within suitable habitat areas on the Park	OCPW		

Table 5-1. Mitigation Monitoring and Reporting Program

Mitigation Measure, Project Design Feature, or Other Measure	Timing	Party Responsible for Monitoring and Enforcement	Verification	
			Initials	Date
MM-BIO-3 Pre-Construction Surveys for Special-Status Species. One pre-construction clearance survey shall be conducted no more than 14 days prior to initiation of site preparation and grading activities. A qualified biologist shall walk the entire survey area to determine if any special-status wildlife are observed or detected. Additional measures may be required for observed species on site, such as establishing a buffer around known locations and/or conducting monitoring during construction near occupied areas to ensure no project activities result in loss of an active nest and incidental take does not occur.	No more than 14 days prior to initiation of site preparation and grading activities	OCPW		
MM-BIO-4 Pre-Construction Nesting Bird Surveys and Avoidance. Vegetation clearing and grading activities shall avoid the migratory bird nesting season (typically February 1 through August 31) to reduce any potential significant impacts to birds that may be nesting in the Park, including yellow warbler, yellow-breasted chat, Cooper's hawk, least Bell's vireo, coastal California gnatcatcher, burrowing owl, California gull, white-faced ibis, double-breasted cormorant, Costa's hummingbird, rufous hummingbird, osprey, prairie falcon, and white-tailed kite. To maintain compliance with the Migratory Bird Treaty Act and California Fish and Game Code, if ground-disturbing and/or vegetation clearance activities are scheduled to occur during the avian nesting season, a pre-construction nesting bird survey shall be conducted by a qualified biologist within the project impact footprint and a 500-foot buffer where legal access is granted around the disturbance footprint to determine the presence or absence of protected migratory birds and active nests. Surveys shall be conducted within 3 days prior to initiation of activity in accordance with the Migratory Bird Treaty Act (16 USC 703-712) and the State Fish and Game Code Sections 3503, 3503.5, and 3513. If an active nest is detected during the nesting bird survey, the nest shall be flagged and mapped on the construction plan, along with appropriate avoidance buffers established around the nest as determined by a qualified biologist based on the species sensitivity to disturbance (typically 300 feet for passerines and 500 feet for raptors and special-status species). The buffer shall be of a distance	Prior to vegetation clearing and grading activities	OCPW		

Table 5-1. Mitigation Monitoring and Reporting Program

Mitigation Measure, Project Design Feature, or Other Measure	Timing	Party Responsible for Monitoring and Enforcement	Verification	
			Initials	Date
to ensure avoidance of adverse effects to the nesting bird by accounting for topography, ambient conditions, species, nest location, and activity type. All nests shall be monitored as determined by the qualified biologist until nestlings have fledged and dispersed, or it is confirmed that the nest has been unsuccessful or abandoned. The qualified biologist shall halt all construction activities within proximity to an active nest if it is determined that the activities are harassing the nest and may result in nest abandonment or take. The qualified biologist shall also have the authority to require implementation of avoidance measures related to noise, vibration, or light pollution if indirect impacts are resulting in harassment of the nest. No project activities shall encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that the nestlings have fledged, and the nest is no longer active.				
MM-BIO-5 Restoration of Sensitive Natural Communities. The proposed project shall restore and enhance native habitat communities on the Park to a level greater than what currently exists on the Park. The 0.61 acre of impacted sensitive natural communities shall be restored at a minimum 1:1 ratio through planned restoration activities as part of the project. The project's Restoration Plan shall detail the location and amount of restoration proposed to offset project-related impacts to sensitive natural communities.				
MM-BIO-6 Regulatory Waters Permitting. Direct impacts to jurisdictional waters shall be addressed through the regulatory application process to implement Section 401 and Section 404 of the Clean Water Act, the Porter-Cologne Water Quality Act, and Section 1602 of the California Fish and Game Code. Due to the amount of proposed project-related impacts to potentially jurisdictional aquatic resources it is anticipated that an Individual Permit from the ACOE will be required. An Individual Permit would also require compliance with 404(b)(1) Guidelines and mitigation to offset impacts and ensure no-net loss of wetlands and waters of the U.S. and State. Direct impacts to jurisdictional non-wetland waters shall be mitigated through either the on-site restoration of habitat or	Prior to construction	OCPW		

Table 5-1. Mitigation Monitoring and Reporting Program

Mitigation Measure, Project Design Feature, or Other Measure	Timing	Party Responsible for Monitoring and Enforcement	Verification	
			Initials	Date
through the purchase of off-site mitigation credits. The applicant shall purchase credits through an agency-approved mitigation bank, in-lieu fee program, or other agreement. A minimum ratio of 3:1 for establishment or reestablishment credits shall be required for impacts to jurisdictional wetlands, as well as associated riparian habitat. However, the final mitigation ratio required shall be determined through consultation with the regulatory resource agencies during the permitting process. Finally, a standard Streambed Alteration Agreement shall be required from the CDFW for impacts to CDFW waters, as well as a Coastal Development Permit from the CCC.				
MM-CUL-1 Worker Environmental Awareness Program. Prior to commencement of construction activities for all phases of Project implementation, OC Parks shall retain a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for Archaeology, to prepare a Worker Environmental Awareness Program (WEAP). The WEAP shall be submitted to the OC Parks for review and approval. All construction personnel and monitors shall be presented, the WEAP training prior to the start of construction activities. The WEAP shall be prepared to inform all personnel working on the proposed Project about the archaeological sensitivity of the area, to provide specific details on the kinds of archaeological materials that may be identified during construction, to explain the importance of and legal basis for the protection of significant archaeological resources, and to outline the actions to be taken in the event of a discovery of cultural resources. The WEAP shall define "tribal cultural resources" and include appropriate management requirements relating to inadvertent discovery of a potential tribal cultural resource. Each worker shall also learn the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the site supervisor and archaeological monitor.	Prior to commencement of construction activities for all phases of Project implementation	OCPW and Qualified Archaeologist		

Table 5-1. Mitigation Monitoring and Reporting Program

Mitigation Measure, Project Design Feature, or Other Measure	Timing	Party Responsible for Monitoring and Enforcement	Verification	
			Initials	Date
MM-CUL-2 Inadvertent Archaeological Discoveries. In the event that any cultural resources are encountered during earthmoving activities, all work within 50 feet of the find shall be halted until a qualified archaeologist/ archaeological principal investigator (archaeologist) can evaluate the findings and make recommendations. The archaeologist may evaluate the find in accordance with federal, State, and local guidelines, including those set forth in the California Public Resources Code Section 21083.2 and as outlined by CEQA (14 CCR 15064.5[f]; PRC Section 21082), to assess the significance of the find and identify avoidance or other measures as appropriate. If suspected prehistoric or historical archaeological deposits are discovered during construction, all work within the immediate area of the discovery shall be redirected and the find must be evaluated for significance by a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983). The work exclusion buffer may be adjusted as appropriate to allow work to feasibly continue at the recommendation of the archaeologist. Should it be required, temporary flagging shall be installed around this resource in order to avoid any disturbances from construction equipment. The potential for avoidance should be the primary consideration of this initial process. If the archaeologist observes the discovery to be potentially significant under CEQA, additional efforts, such as the preparation of a monitoring plan shall be prepared by a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for Archaeology, and implemented upon approval by OCPW. The monitoring plan shall include the required archaeological resource treatment, testing, and/or data recovery procedures. If approved by OCPW and noted in the monitoring plan, an archaeological monitor shall be present during the remainder of the ground-disturbing activities for the Project. Archaeological monitoring may be adjusted (increase, decreased, or discontinued) at the recommendation of the archaeological principal investigator and based on inspection of exposed cultural material and the observed potential for soils to contain intact cultural deposits or otherwise significant archaeological	As needed during construction	OCPW and Qualified Archaeologist		

Table 5-1. Mitigation Monitoring and Reporting Program

Mitigation Measure, Project Design Feature, or Other Measure	Timing	Party Responsible for Monitoring and Enforcement	Verification	
			Initials	Date
material. The archaeological monitor shall be provided a copy of the Cultural Resources Inventory Report and its pertinent appendices to inform their monitoring efforts. The archaeological monitor shall have the authority to temporarily halt work to inspect areas for potential cultural material or deposits. Daily monitoring logs shall be completed by the on-site archaeological monitor. Within 60 days following completion of construction, the archaeologist shall provide an archaeological monitoring report to OCPW. This report shall include the results of the cultural monitoring program (even if negative), including a summary of any findings or evaluation/data recovery efforts, and supporting documentation that demonstrates all mitigation measures defined in the environmental document were appropriately met. Appendices shall include archaeological monitoring logs and documentation relating to any newly identified or updated cultural resources. This report shall be submitted to the SCCIC once considered final.				
RCM-CUL-1 Human Remains. In the event that human remains are encountered on the Park, work within 50 feet of the discovery shall be redirected and the County of Orange (County) Coroner notified immediately consistent with the requirements of California Code of Regulations (CCR) Section 15064.5(e). State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code (PRC) Section 5097.98. If the remains County Coroner shall notify the Native American Heritage Commission (NAHC), which shall determine and notify a Most Likely Descendant (MLD). With the permission of the property owner, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and non-destructive analysis of human remains and items associated with Native American burials. Consistent with CCR Section 15064.5(d), if the remains are determined to be Native American and an MLD is notified, the County shall consult with the MLD as identified by the NAHC to develop an agreement for treatment and disposition	As needed during construction	OCPW		

Table 5-1. Mitigation Monitoring and Reporting Program

Mitigation Measure, Project Design Feature, or Other Measure	Timing	Party Responsible for Monitoring and Enforcement	Verification	
			Initials	Date
of the remains. Prior to the issuance of grading permits, the County of Orange (County) Public Works Department, or designee, shall verify that all grading plans specify the requirements of CCR Section 15064.5(e), State Health and Safety Code Section 7050.5, and PRC Section 5097.98, as stated above.				
MM-GEO-1 Prior to the commencement of any grading or ground disturbing activities on-site, the County of Orange shall retain a certified Orange County paleontologist. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the proposed project. The PRIMP shall be consistent with the guidelines of the Society of Vertebrate Paleontology (SVP) (2010) and should outline requirements for preconstruction meeting attendance and worker environmental awareness training, where monitoring is required within the Park based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, paleontological methods (including sediment sampling for microfossils), reporting, and collections management. The certified paleontologist shall attend the preconstruction meeting and a qualified paleontological monitor shall be on-site during all rough grading and other significant ground-disturbing activities (including augering) in area underlain by old paralic deposits and below a depth of 5 feet in areas underlain by young alluvial fan deposits.	Prior to the commencement of any grading or ground disturbing activities	OCPW and Certified Paleontologist		
SC TCR-1 Documentation of Fill Material. OCPW and OC Parks will document in the Project files the source of any off-site fill material used for the Project during construction.	As needed during construction	OCPW and OC Parks		
SC TCR-2 Unanticipated Discovery of Native American Resources. If unanticipated tribal cultural resources, archaeological resources or deposits are discovered during ground-disturbing activities, OC Public Works shall implement the following measures. All work shall halt within a 50-foot radius of the discovery. OC Public Works shall retain a qualified professional archaeologist with knowledge of Native American resources to assess the significance of the find. If the resources are Native American in origin, OC Public Works shall coordinate with the Tribe regarding evaluation, treatment, curation, and	As needed during construction (specifically, during ground-disturbing activities)	OCPW		

Table 5-1. Mitigation Monitoring and Reporting Program

Mitigation Measure, Project Design Feature, or Other Measure	Timing	Party Responsible for Monitoring and Enforcement	Verification	
			Initials	Date
preservation of these resources. The archaeologist shall have the authority to modify the no-work radius as appropriate, using professional judgment in consultation with OC Public Works. Work shall not continue within the no work radius until the archaeologist conducts sufficient research and evidence and data collection to establish that the resource is either: (1) not cultural in origin; or (2) not potentially eligible for listing on the California Register of Historical Resources. If a potentially eligible resource is encountered, then the archaeologist and OC Public Works, as lead agency, in consultation with the Tribe, shall arrange for either: (1) avoidance of the resource, if possible; or (2) test excavations to evaluate eligibility, and if eligible, attempt to resolve adverse effects through implementation of appropriate mitigation, which may include, but shall not be limited to, salvage excavation, laboratory analysis and processing, research, curation, and preparation of a report summarizing the find. The assessment of eligibility shall be formally documented in writing as verification that the provisions in the CEQA for managing unanticipated discoveries and Public Resources Code Section 5024 have been met.				

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6 References and Preparers

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6.2 List of Preparers

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County of Orange

Stephanie Clark, Deputy County Counsel

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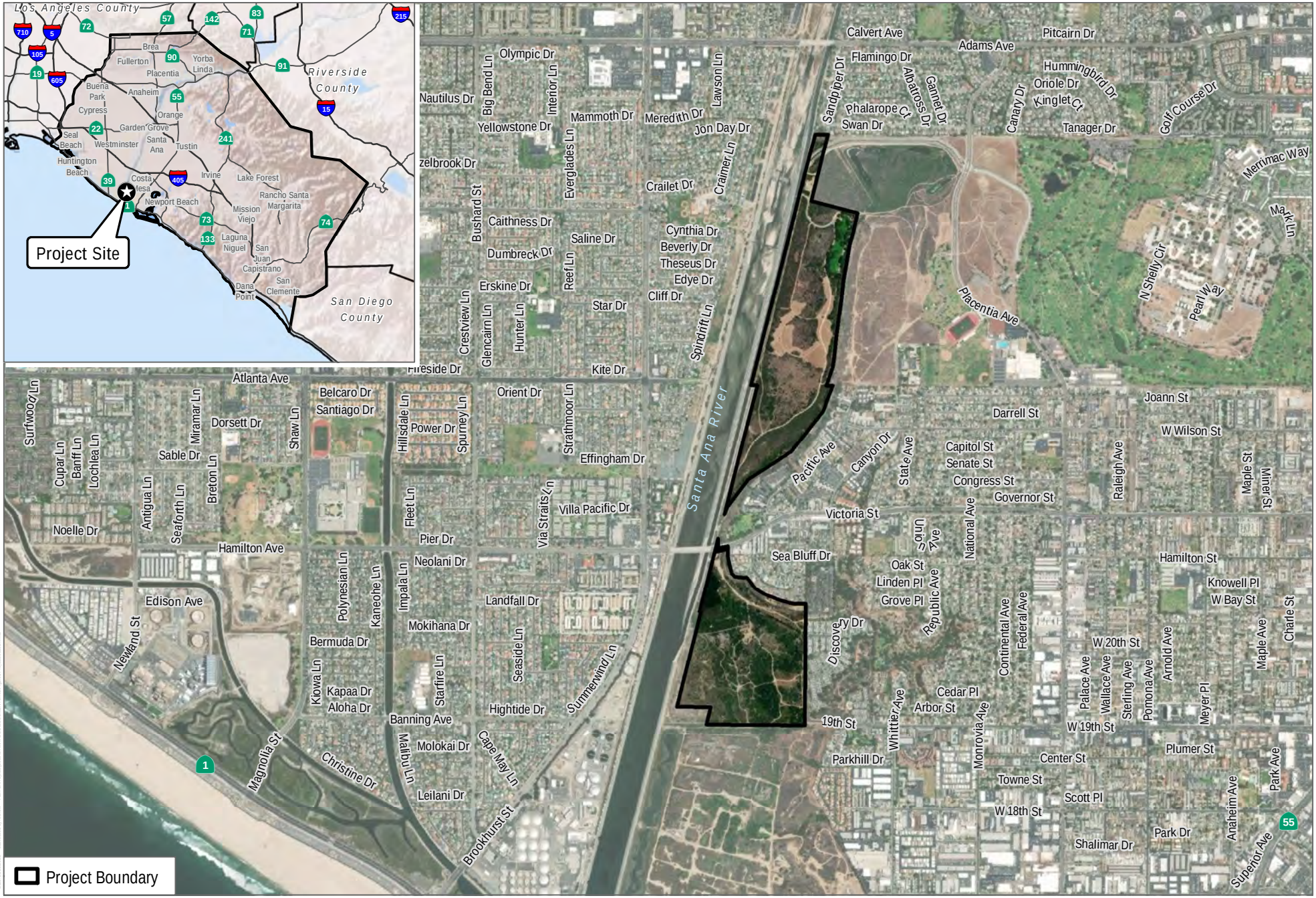

SOURCE: County of Orange; Open Street Maps 2019; DigitalGlobe Accessed 2022

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0 1,000 2,000 Feet

FIGURE 1

Project Location

Talbert Regional Park Master Plan Project

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Path: Z:\Projects\132303\MAP\DOCS\DOCUMENT

FIGURE 2

Existing Conditions: Talbert Regional Park

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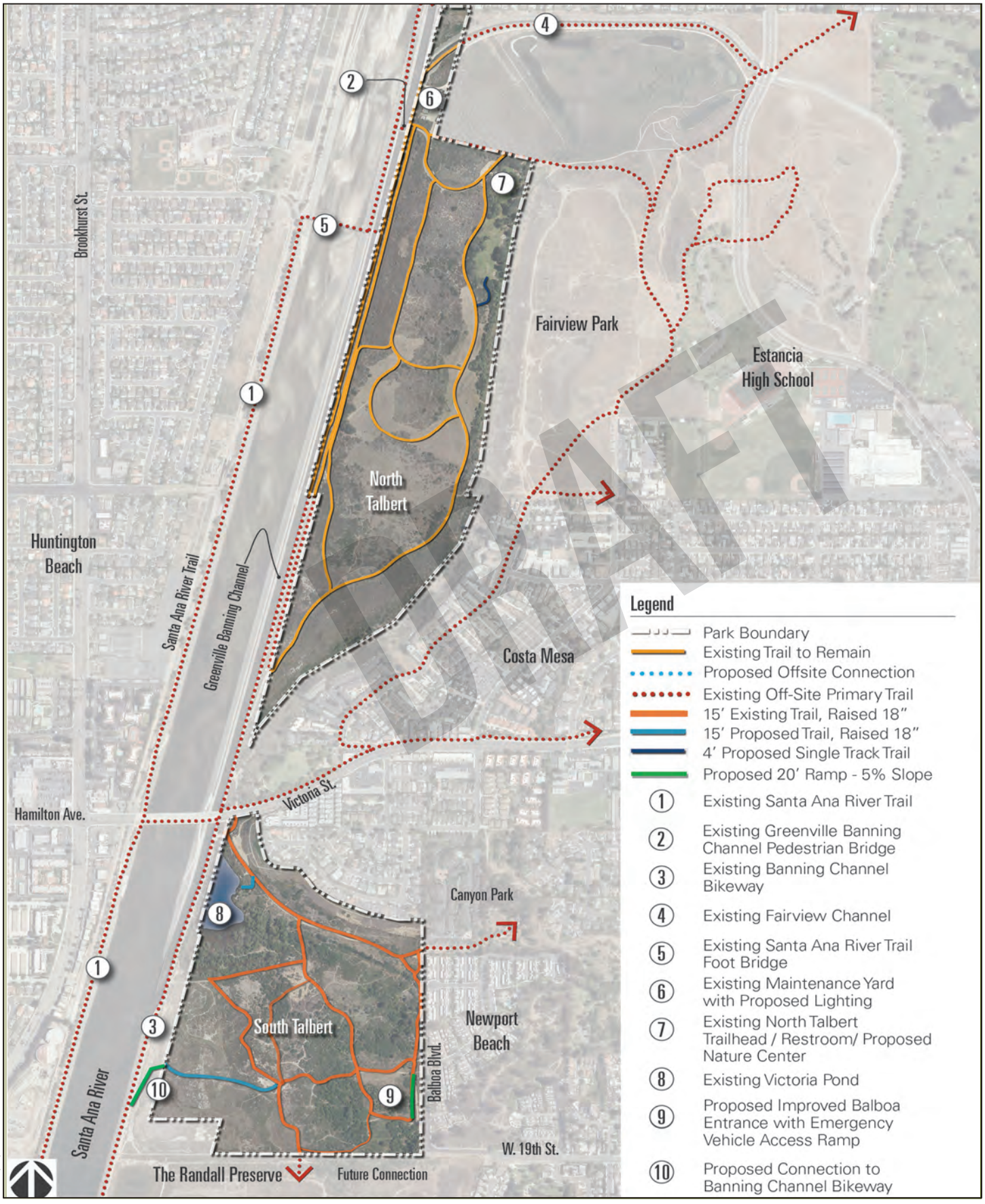

SOURCE: OC Parks 2025

FIGURE 3

Proposed Improvements

Talbert Regional Park Master Plan

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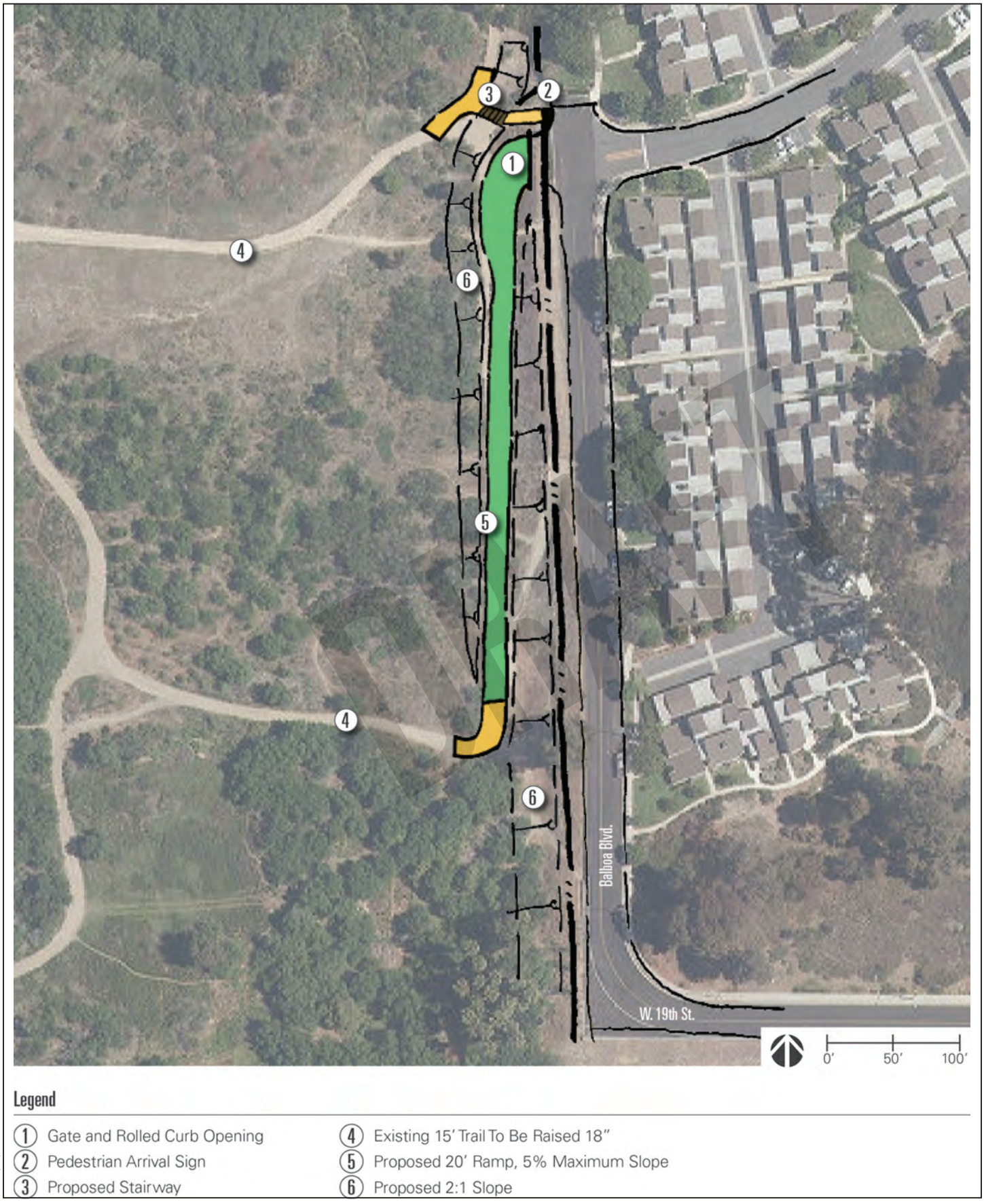

Legend

1. Gate and Rolled Curb Opening
2. Pedestrian Arrival Sign
3. Proposed Stairway
4. Existing 15' Trail To Be Raised 18"
5. Proposed 20' Ramp, 5% Maximum Slope
6. Proposed 2:1 Slope

SOURCE: OC Parks 2025

FIGURE 4

Balboa Boulevard Entrance Plan

Talbert Regional Park Master Plan

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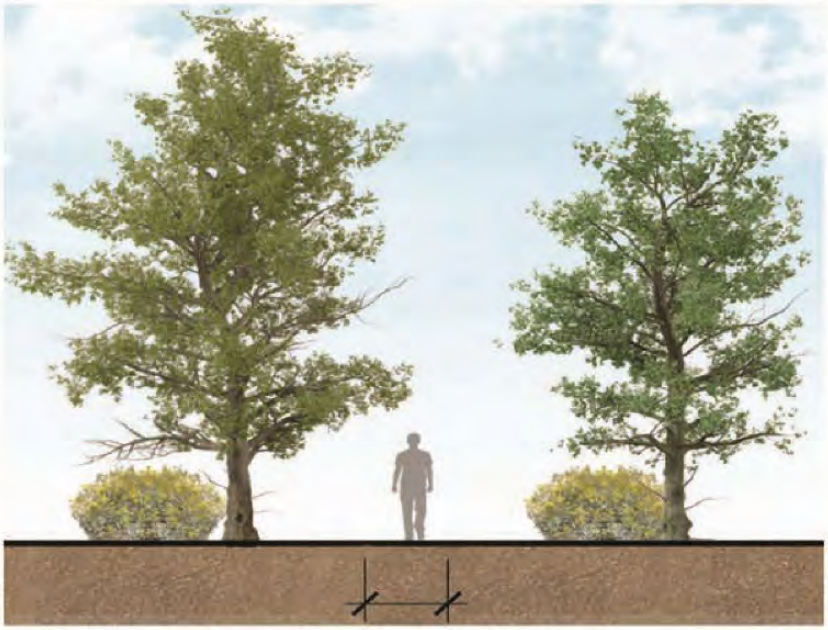
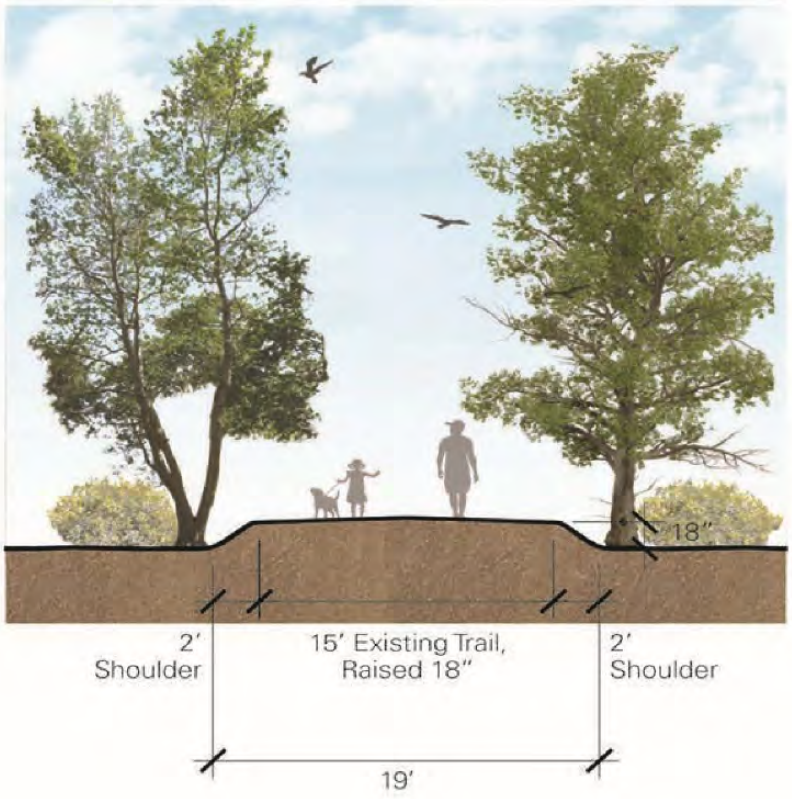
North Talbert New Connector



4' Single Track Trail

South Talbert Trail Improvement



SOURCE: OC Parks 2025

FIGURE **5**

Conceptual Trail Segments

Talbert Regional Park Master Plan Project

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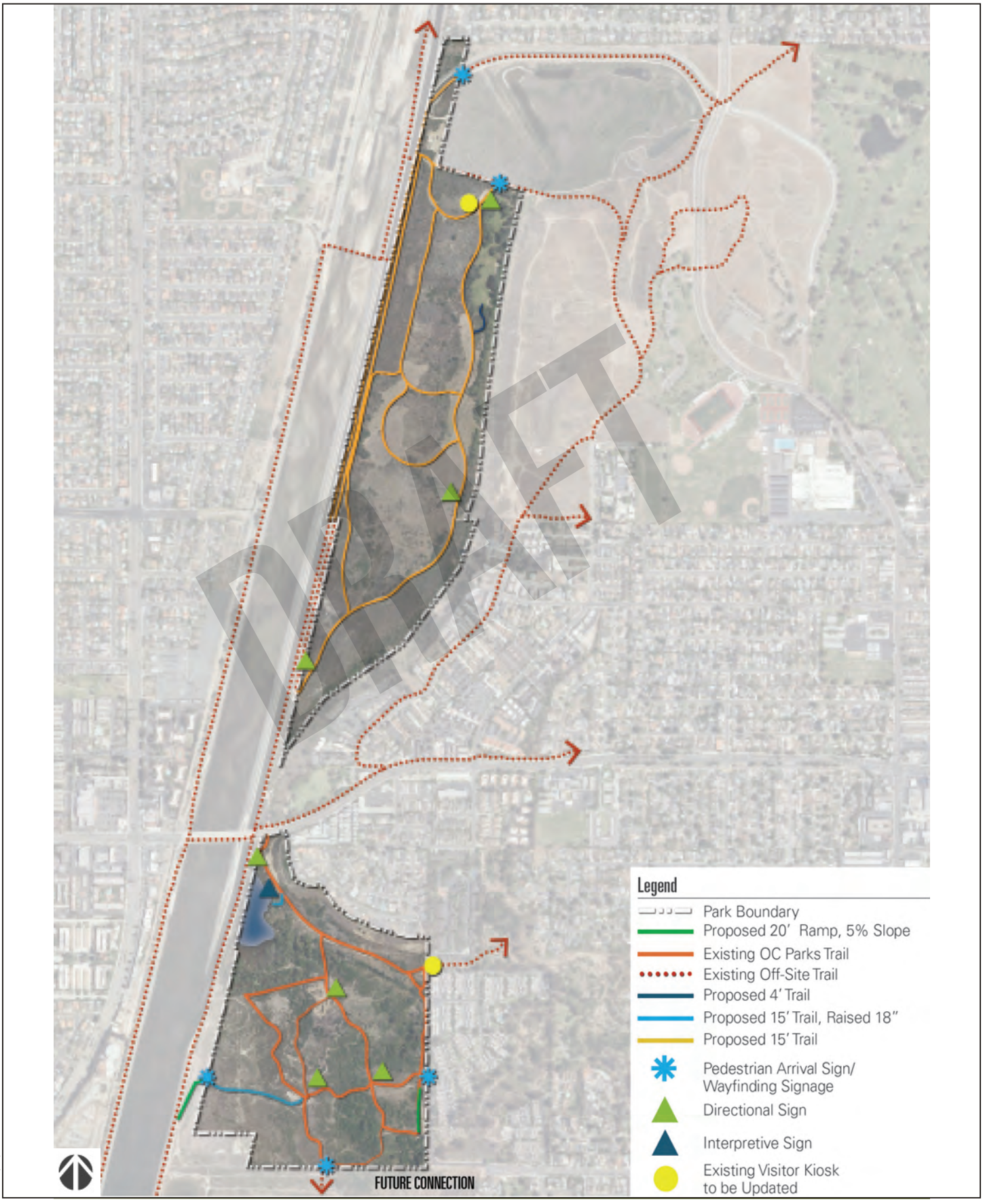

SOURCE: OC Parks 2025

FIGURE 6

Conceptual Wayfinding Plan

Talbert Regional Park Master Plan

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SOURCE: Open Street Maps 2019, Digital Globe Accessed 2022

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FIGURE **7**

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Talbert Regional Park Master Plan

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Appendix A

Air Quality and Greenhouse Gas Emissions CalEEMod Output Files

13230 Talbert Regional Park Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	13230 Talbert Regional Park
Construction Start Date	9/1/2027
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50000
Precipitation (days)	19.2000
Location	33.64531902553304, -117.95074417422475
County	Orange
City	Costa Mesa
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5911
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.41

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Parking Lot	0.90000	1000sqft	0.02066	900.000	0.00000	0.00000	—	—

City Park	27.0000	Acre	27.0000	0.00000	27.0000	27.0000	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.44169	1.55434	21.5900	19.0381	0.07758	0.64275	4.26147	4.90422	0.59963	1.55529	2.15493	—	10,674.4	10,674.4	0.71294	1.31166	16.0393	11,099.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.83227	3.19257	27.1351	34.1669	0.07758	1.12182	4.26147	4.90422	1.03251	1.55529	2.15493	—	10,665.1	10,665.1	0.71330	1.31166	0.41567	11,074.2
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.58073	0.48412	4.23000	5.08120	0.01293	0.17658	0.59269	0.73441	0.16252	0.20575	0.33718	—	1,727.16	1,727.16	0.10386	0.17107	0.95020	1,781.69
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.10598	0.08835	0.77198	0.92732	0.00236	0.03223	0.10817	0.13403	0.02966	0.03755	0.06154	—	285.952	285.952	0.01719	0.02832	0.15732	294.979

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.44169	1.55434	21.5900	19.0381	0.07758	0.64275	4.26147	4.90422	0.59963	1.55529	2.15493	—	10,674.4	10,674.4	0.71294	1.31166	16.0393	11,099.2
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.43132	1.77963	21.9798	19.1471	0.07758	0.64275	4.26147	4.90422	0.59963	1.55529	2.15493	—	10,665.1	10,665.1	0.71330	1.31166	0.41567	11,074.2
2028	3.83227	3.19257	27.1351	34.1669	0.05642	1.12182	0.93731	2.05913	1.03251	0.22831	1.26081	—	6,871.66	6,871.66	0.26795	0.17185	0.09387	6,929.66
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.51536	0.36980	4.23000	4.23928	0.01293	0.14172	0.59269	0.73441	0.13143	0.20575	0.33718	—	1,727.16	1,727.16	0.10386	0.17107	0.95020	1,781.69
2028	0.58073	0.48412	4.15171	5.08120	0.00852	0.17658	0.11729	0.29387	0.16252	0.02869	0.19120	—	1,021.97	1,021.97	0.04024	0.02431	0.20481	1,030.43
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.09405	0.06749	0.77198	0.77367	0.00236	0.02586	0.10817	0.13403	0.02399	0.03755	0.06154	—	285.952	285.952	0.01719	0.02832	0.15732	294.979
2028	0.10598	0.08835	0.75769	0.92732	0.00156	0.03223	0.02141	0.05363	0.02966	0.00524	0.03489	—	169.199	169.199	0.00666	0.00403	0.03391	170.599

2.2.2. Onsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.63491	1.37378	12.1813	13.8677	0.02508	0.53897	1.85427	2.39324	0.49585	0.89237	1.38822	—	2,715.88	2,715.88	0.11017	0.02203	0.00000	2,725.20
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.98683	1.66894	14.6384	17.3978	0.02780	0.62155	1.85427	2.39324	0.57182	0.89237	1.38822	—	2,987.73	2,987.73	0.12120	0.02424	0.00000	2,997.98
2028	3.60006	3.02394	26.2283	31.5611	0.05102	1.11642	0.00000	1.11642	1.02711	0.00000	1.02711	—	5,479.37	5,479.37	0.22227	0.04445	0.00000	5,498.17
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.40231	0.33801	2.96330	3.44600	0.00589	0.12865	0.24561	0.37426	0.11836	0.11185	0.23021	—	636.518	636.518	0.02582	0.00516	0.00000	638.703

2028	0.55108	0.46296	4.02656	4.74334	0.00776	0.17582	0.00000	0.17582	0.16175	0.00000	0.16175	—	836.602	836.602	0.03394	0.00679	0.00000	839.473
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.07342	0.06169	0.54080	0.62890	0.00108	0.02348	0.04482	0.06830	0.02160	0.02041	0.04201	—	105.383	105.383	0.00427	0.00085	0.00000	105.744
2028	0.10057	0.08449	0.73485	0.86566	0.00142	0.03209	0.00000	0.03209	0.02952	0.00000	0.02952	—	138.509	138.509	0.00562	0.00112	0.00000	138.984

2.2.3. Offsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.80678	0.18056	9.40873	5.17040	0.05491	0.10378	2.40720	2.51098	0.10378	0.66292	0.76670	—	8,218.99	8,218.99	0.61334	1.29174	16.0393	8,635.30
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.79640	0.16974	9.79848	5.06937	0.05491	0.10378	2.40720	2.51098	0.10378	0.66292	0.76670	—	8,209.62	8,209.62	0.61369	1.29174	0.41567	8,610.32
2028	0.23221	0.16863	0.90682	2.60578	0.00540	0.00540	0.93731	0.94271	0.00540	0.22831	0.23370	—	1,392.29	1,392.29	0.04568	0.12739	0.09387	1,431.49
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.11306	0.03180	1.26670	0.79328	0.00704	0.01307	0.34709	0.36015	0.01307	0.09390	0.10696	—	1,090.65	1,090.65	0.07804	0.16590	0.95020	1,142.99
2028	0.02965	0.02116	0.12515	0.33786	0.00076	0.00076	0.11729	0.11805	0.00076	0.02869	0.02945	—	185.368	185.368	0.00630	0.01753	0.20481	190.953
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.02063	0.00580	0.23117	0.14477	0.00129	0.00238	0.06334	0.06573	0.00238	0.01714	0.01952	—	180.569	180.569	0.01292	0.02747	0.15732	189.234
2028	0.00541	0.00386	0.02284	0.06166	0.00014	0.00014	0.02141	0.02154	0.00014	0.00524	0.00537	—	30.6899	30.6899	0.00104	0.00290	0.03391	31.6145

2.3. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.24629	0.22461	0.15198	1.87466	0.00505	0.00290	0.49737	0.50027	0.00269	0.12624	0.12894	1.27441	678.332	679.606	0.16401	0.02086	1.45475	691.379
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.23793	0.21656	0.16476	1.69775	0.00485	0.00284	0.49737	0.50020	0.00264	0.12624	0.12888	1.27441	658.397	659.672	0.16477	0.02171	0.03772	670.300
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.24122	0.21951	0.16671	1.76728	0.00490	0.00288	0.49124	0.49413	0.00268	0.12471	0.12739	1.27441	663.840	665.115	0.16464	0.02178	0.62815	676.351
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04402	0.04006	0.03043	0.32253	0.00089	0.00053	0.08965	0.09018	0.00049	0.02276	0.02325	0.21099	109.906	110.117	0.02726	0.00361	0.10400	111.978

2.4. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.22720	0.20605	0.15165	1.83552	0.00504	0.00283	0.49737	0.50020	0.00264	0.12624	0.12888	—	515.189	515.189	0.02103	0.01892	1.45475	522.808
Area	0.01909	0.01855	0.00033	0.03914	< 0.000005	0.00007	—	0.00007	0.00005	—	0.00005	—	0.16096	0.16096	0.00001	< 0.000005	—	0.16154
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.98111	0.98111	0.00009	0.00001	—	0.98683
Water	—	—	—	—	—	—	—	—	—	—	—	0.02299	162.001	162.024	0.01780	0.00193	—	163.044
Waste	—	—	—	—	—	—	—	—	—	—	—	1.25142	0.00000	1.25142	0.12507	0.00000	—	4.37828
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	0.24629	0.22461	0.15198	1.87466	0.00505	0.00290	0.49737	0.50027	0.00269	0.12624	0.12894	1.27441	678.332	679.606	0.16401	0.02086	1.45475	691.379

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.22580	0.20443	0.16476	1.69775	0.00485	0.00284	0.49737	0.50020	0.00264	0.12624	0.12888	—	495.415	495.415	0.02180	0.01978	0.03772	501.891
Area	0.01212	0.01212	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.98111	0.98111	0.00009	0.00001	—	0.98683
Water	—	—	—	—	—	—	—	—	—	—	—	0.02299	162.001	162.024	0.01780	0.00193	—	163.044
Waste	—	—	—	—	—	—	—	—	—	—	—	1.25142	0.00000	1.25142	0.12507	0.00000	—	4.37828
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	0.23793	0.21656	0.16476	1.69775	0.00485	0.00284	0.49737	0.50020	0.00264	0.12624	0.12888	1.27441	658.397	659.672	0.16477	0.02171	0.03772	670.300
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.22433	0.20298	0.16649	1.74047	0.00490	0.00283	0.49124	0.49408	0.00264	0.12471	0.12735	—	500.748	500.748	0.02167	0.01984	0.62815	507.831
Area	0.01690	0.01653	0.00023	0.02681	< 0.000005	0.00005	—	0.00005	0.00004	—	0.00004	—	0.11025	0.11025	< 0.000005	< 0.000005	—	0.11065
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.98111	0.98111	0.00009	0.00001	—	0.98683
Water	—	—	—	—	—	—	—	—	—	—	—	0.02299	162.001	162.024	0.01780	0.00193	—	163.044
Waste	—	—	—	—	—	—	—	—	—	—	—	1.25142	0.00000	1.25142	0.12507	0.00000	—	4.37828
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	0.24122	0.21951	0.16671	1.76728	0.00490	0.00288	0.49124	0.49413	0.00268	0.12471	0.12739	1.27441	663.840	665.115	0.16464	0.02178	0.62815	676.351
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.04094	0.03704	0.03038	0.31764	0.00089	0.00052	0.08965	0.09017	0.00048	0.02276	0.02324	—	82.9045	82.9045	0.00359	0.00329	0.10400	84.0772
Area	0.00308	0.00302	0.00004	0.00489	< 0.000005	0.00001	—	0.00001	0.00001	—	0.00001	—	0.01825	0.01825	< 0.000005	< 0.000005	—	0.01832
Energy	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.16243	0.16243	0.00002	< 0.000005	—	0.16338
Water	—	—	—	—	—	—	—	—	—	—	—	0.00381	26.8212	26.8250	0.00295	0.00032	—	26.9938
Waste	—	—	—	—	—	—	—	—	—	—	—	0.20719	0.00000	0.20719	0.02071	0.00000	—	0.72487
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	0.04402	0.04006	0.03043	0.32253	0.00089	0.00053	0.08965	0.09018	0.00049	0.02276	0.02325	0.21099	109.906	110.117	0.02726	0.00361	0.10400	111.978

3. Construction Emissions Details

3.1. Site Preparation - Overall Site (2027)

3.1.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28950	1.08354	9.07446	10.7681	0.02508	0.38896	—	0.38896	0.35784	—	0.35784	—	2,715.88	2,715.88	0.11017	0.02203	—	2,725.20
Dust From Material Movement	—	—	—	—	—	—	0.41360	0.41360	—	0.04466	0.04466	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05299	0.04453	0.37292	0.44252	0.00103	0.01598	—	0.01598	0.01471	—	0.01471	—	111.611	111.611	0.00453	0.00091	—	111.994
Dust From Material Movement	—	—	—	—	—	—	0.01700	0.01700	—	0.00184	0.00184	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00967	0.00813	0.06806	0.08076	0.00019	0.00292	—	0.00292	0.00268	—	0.00268	—	18.4785	18.4785	0.00075	0.00015	—	18.5419
Dust From Material Movement	—	—	—	—	—	—	0.00310	0.00310	—	0.00033	0.00033	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05326	0.04568	0.04797	0.79119	0.00000	0.00000	0.20914	0.20914	0.00000	0.04902	0.04902	—	204.838	204.838	0.00212	0.00758	0.64949	207.800
Vendor	0.00974	0.00257	0.12279	0.06097	0.00090	0.00090	0.03422	0.03512	0.00090	0.00946	0.01035	—	123.139	123.139	0.00626	0.01681	0.29455	128.599
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00217	0.00186	0.00227	0.02916	0.00000	0.00000	0.00849	0.00849	0.00000	0.00199	0.00199	—	8.12100	8.12100	0.00010	0.00031	0.01154	8.22796
Vendor	0.00040	0.00011	0.00529	0.00253	0.00004	0.00004	0.00139	0.00143	0.00004	0.00038	0.00042	—	5.06162	5.06162	0.00025	0.00069	0.00522	5.27902
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00040	0.00034	0.00041	0.00532	0.00000	0.00000	0.00155	0.00155	0.00000	0.00036	0.00036	—	1.34452	1.34452	0.00002	0.00005	0.00191	1.36223
Vendor	0.00007	0.00002	0.00097	0.00046	0.00001	0.00001	0.00025	0.00026	0.00001	0.00007	0.00008	—	0.83801	0.83801	0.00004	0.00011	0.00086	0.87400
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2. Grading (including trail) (2027)

3.2.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.63491	1.37378	12.1813	13.8677	0.02267	0.53897	—	0.53897	0.49585	—	0.49585	—	2,455.46	2,455.46	0.09960	0.01992	—	2,463.88
Dust From Material Movement	—	—	—	—	—	—	1.85427	1.85427	—	0.89237	0.89237	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.63491	1.37378	12.1813	13.8677	0.02267	0.53897	—	0.53897	0.49585	—	0.49585	—	2,455.46	2,455.46	0.09960	0.01992	—	2,463.88
Dust From Material Movement	—	—	—	—	—	—	1.85427	1.85427	—	0.89237	0.89237	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.20156	0.16937	1.50181	1.70971	0.00279	0.06645	—	0.06645	0.06113	—	0.06113	—	302.728	302.728	0.01228	0.00246	—	303.766
Dust From Material Movement	—	—	—	—	—	—	0.22861	0.22861	—	0.11002	0.11002	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03679	0.03091	0.27408	0.31202	0.00051	0.01213	—	0.01213	0.01116	—	0.01116	—	50.1200	50.1200	0.00203	0.00041	—	50.2920
Dust From Material Movement	—	—	—	—	—	—	0.04172	0.04172	—	0.02008	0.02008	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06658	0.05710	0.05997	0.98899	0.00000	0.00000	0.26142	0.26142	0.00000	0.06128	0.06128	—	256.048	256.048	0.00265	0.00948	0.81186	259.751
Vendor	0.00974	0.00257	0.12279	0.06097	0.00090	0.00090	0.03422	0.03512	0.00090	0.00946	0.01035	—	123.139	123.139	0.00626	0.01681	0.29455	128.599
Hauling	0.73046	0.12089	9.22598	4.12044	0.05401	0.10288	2.11156	2.21444	0.10288	0.59219	0.69507	—	7,839.80	7,839.80	0.60443	1.26545	14.9329	8,246.95
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06658	0.05666	0.06129	0.85054	0.00000	0.00000	0.26142	0.26142	0.00000	0.06128	0.06128	—	243.686	243.686	0.00309	0.00948	0.02111	246.609

Vendor	0.00965	0.00249	0.12797	0.06238	0.00090	0.00090	0.03422	0.03512	0.00090	0.00946	0.01035	—	123.204	123.204	0.00617	0.01681	0.00763	128.374
Hauling	0.72018	0.11060	9.60922	4.15645	0.05401	0.10288	2.11156	2.21444	0.10288	0.59219	0.69507	—	7,842.73	7,842.73	0.60443	1.26545	0.38693	8,235.34
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00815	0.00699	0.00851	0.10935	0.00000	0.00000	0.03183	0.03183	0.00000	0.00746	0.00746	—	30.4538	30.4538	0.00038	0.00117	0.04329	30.8549
Vendor	0.00120	0.00032	0.01588	0.00759	0.00011	0.00011	0.00418	0.00429	0.00011	0.00115	0.00127	—	15.1849	15.1849	0.00076	0.00207	0.01565	15.8371
Hauling	0.08974	0.01427	1.19199	0.50990	0.00666	0.01268	0.25782	0.27051	0.01268	0.07238	0.08507	—	966.703	966.703	0.07452	0.15601	0.79446	1,015.85
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00149	0.00127	0.00155	0.01996	0.00000	0.00000	0.00581	0.00581	0.00000	0.00136	0.00136	—	5.04197	5.04197	0.00006	0.00019	0.00717	5.10837
Vendor	0.00022	0.00006	0.00290	0.00139	0.00002	0.00002	0.00076	0.00078	0.00002	0.00021	0.00023	—	2.51403	2.51403	0.00013	0.00034	0.00259	2.62201
Hauling	0.01638	0.00260	0.21754	0.09306	0.00122	0.00231	0.04705	0.04937	0.00231	0.01321	0.01552	—	160.049	160.049	0.01234	0.02583	0.13153	168.186

3.3. Construction - Nature Center (2027)

3.3.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.63491	1.37378	12.1813	13.8677	0.02267	0.53897	—	0.53897	0.49585	—	0.49585	—	2,455.46	2,455.46	0.09960	0.01992	—	2,463.88
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.12158	0.10216	0.90585	1.03126	0.00169	0.04008	—	0.04008	0.03687	—	0.03687	—	182.598	182.598	0.00741	0.00148	—	183.224
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02219	0.01864	0.16532	0.18820	0.00031	0.00731	—	0.00731	0.00673	—	0.00673	—	30.2311	30.2311	0.00123	0.00025	—	30.3349
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06658	0.05666	0.06129	0.85054	0.00000	0.00000	0.26142	0.26142	0.00000	0.06128	0.06128	—	243.686	243.686	0.00309	0.00948	0.02111	246.609
Vendor	0.02412	0.00622	0.31993	0.15596	0.00225	0.00225	0.08556	0.08781	0.00225	0.02364	0.02589	—	308.009	308.009	0.01543	0.04202	0.01907	320.936
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00492	0.00421	0.00513	0.06595	0.00000	0.00000	0.01920	0.01920	0.00000	0.00450	0.00450	—	18.3689	18.3689	0.00023	0.00070	0.02611	18.6109
Vendor	0.00181	0.00048	0.02395	0.01145	0.00017	0.00017	0.00630	0.00646	0.00017	0.00174	0.00191	—	22.8978	22.8978	0.00115	0.00312	0.02360	23.8813
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00090	0.00077	0.00094	0.01204	0.00000	0.00000	0.00350	0.00350	0.00000	0.00082	0.00082	—	3.04119	3.04119	0.00004	0.00012	0.00432	3.08124
Vendor	0.00033	0.00009	0.00437	0.00209	0.00003	0.00003	0.00115	0.00118	0.00003	0.00032	0.00035	—	3.79100	3.79100	0.00019	0.00052	0.00391	3.95382

Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4. Construction - Nature Center (2028)

3.4.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.60969	1.35258	11.7838	13.9071	0.02268	0.51580	—	0.51580	0.47453	—	0.47453	—	2,456.26	2,456.26	0.09964	0.01993	—	2,464.69
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27721	0.23293	2.02931	2.39495	0.00391	0.08883	—	0.08883	0.08172	—	0.08172	—	422.997	422.997	0.01716	0.00343	—	424.448
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05059	0.04251	0.37035	0.43708	0.00071	0.01621	—	0.01621	0.01491	—	0.01491	—	70.0319	70.0319	0.00284	0.00057	—	70.2722
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06437	0.05490	0.06041	0.80138	0.00000	0.00000	0.26142	0.26142	0.00000	0.06128	0.06128	—	239.352	239.352	0.00309	0.00948	0.01878	242.273
Vendor	0.02165	0.00622	0.30737	0.15080	0.00225	0.00225	0.08556	0.08781	0.00225	0.02364	0.02589	—	300.878	300.878	0.01543	0.04202	0.01720	313.803
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01116	0.00953	0.01040	0.14427	0.00000	0.00000	0.04446	0.04446	0.00000	0.01041	0.01041	—	41.7826	41.7826	0.00053	0.00163	0.05404	42.3364
Vendor	0.00377	0.00111	0.05294	0.02567	0.00039	0.00039	0.01458	0.01497	0.00039	0.00403	0.00442	—	51.7979	51.7979	0.00266	0.00724	0.04929	54.0700
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00204	0.00174	0.00190	0.02633	0.00000	0.00000	0.00811	0.00811	0.00000	0.00190	0.00190	—	6.91759	6.91759	0.00009	0.00027	0.00895	7.00928
Vendor	0.00069	0.00020	0.00966	0.00468	0.00007	0.00007	0.00266	0.00273	0.00007	0.00074	0.00081	—	8.57573	8.57573	0.00044	0.00120	0.00816	8.95191
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5. Construction (Balboa Boulevard Access Improvements) (2028)

3.5.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.64983	1.38576	12.0352	14.1176	0.02321	0.52562	—	0.52562	0.48357	—	0.48357	—	2,490.75	2,490.75	0.10104	0.02021	—	2,499.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27120	0.22780	1.97839	2.32070	0.00382	0.08640	—	0.08640	0.07949	—	0.07949	—	409.438	409.438	0.01661	0.00332	—	410.843
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04949	0.04157	0.36106	0.42353	0.00070	0.01577	—	0.01577	0.01451	—	0.01451	—	67.7872	67.7872	0.00275	0.00055	—	68.0198
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06437	0.05490	0.06041	0.80138	0.00000	0.00000	0.26142	0.26142	0.00000	0.06128	0.06128	—	239.352	239.352	0.00309	0.00948	0.01878	242.273

Vendor	0.02165	0.00622	0.30737	0.15080	0.00225	0.00225	0.08556	0.08781	0.00225	0.02364	0.02589	—	300.878	300.878	0.01543	0.04202	0.01720	313.803
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01065	0.00910	0.00993	0.13771	0.00000	0.00000	0.04244	0.04244	0.00000	0.00994	0.00994	—	39.8834	39.8834	0.00051	0.00156	0.05158	40.4120
Vendor	0.00360	0.00106	0.05053	0.02450	0.00037	0.00037	0.01392	0.01429	0.00037	0.00385	0.00422	—	49.4434	49.4434	0.00254	0.00691	0.04705	51.6123
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00194	0.00166	0.00181	0.02513	0.00000	0.00000	0.00775	0.00775	0.00000	0.00181	0.00181	—	6.60315	6.60315	0.00008	0.00026	0.00854	6.69068
Vendor	0.00066	0.00019	0.00922	0.00447	0.00007	0.00007	0.00254	0.00261	0.00007	0.00070	0.00077	—	8.18592	8.18592	0.00042	0.00114	0.00779	8.54500
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6. Trenching (maintenance yard electricity connection, and lighting) (2027)

3.6.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35192	0.29516	2.45711	3.53011	0.00513	0.08258	—	0.08258	0.07597	—	0.07597	—	532.268	532.268	0.02159	0.00432	—	534.095
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.02617	0.02195	0.18272	0.26251	0.00038	0.00614	—	0.00614	0.00565	—	0.00565	—	39.5816	39.5816	0.00161	0.00032	—	39.7174
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00478	0.00401	0.03335	0.04791	0.00007	0.00112	—	0.00112	0.00103	—	0.00103	—	6.55319	6.55319	0.00027	0.00005	—	6.57568
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05326	0.04533	0.04903	0.68043	0.00000	0.00000	0.20914	0.20914	0.00000	0.04902	0.04902	—	194.949	194.949	0.00247	0.00758	0.01689	197.287
Vendor	0.00965	0.00249	0.12797	0.06238	0.00090	0.00090	0.03422	0.03512	0.00090	0.00946	0.01035	—	123.204	123.204	0.00617	0.01681	0.00763	128.374
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00393	0.00337	0.00411	0.05276	0.00000	0.00000	0.01536	0.01536	0.00000	0.00360	0.00360	—	14.6951	14.6951	0.00018	0.00056	0.02089	14.8887
Vendor	0.00072	0.00019	0.00958	0.00458	0.00007	0.00007	0.00252	0.00259	0.00007	0.00070	0.00076	—	9.15913	9.15913	0.00046	0.00125	0.00944	9.55252
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00072	0.00062	0.00075	0.00963	0.00000	0.00000	0.00280	0.00280	0.00000	0.00066	0.00066	—	2.43295	2.43295	0.00003	0.00009	0.00346	2.46499
Vendor	0.00013	0.00003	0.00175	0.00084	0.00001	0.00001	0.00046	0.00047	0.00001	0.00013	0.00014	—	1.51640	1.51640	0.00008	0.00021	0.00156	1.58153

Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7. Trenching (maintenance yard electricity connection, and lighting) (2028)

3.7.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34055	0.28560	2.40919	3.53645	0.00513	0.07500	—	0.07500	0.06900	—	0.06900	—	532.355	532.355	0.02159	0.00432	—	534.182
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00267	0.00224	0.01886	0.02768	0.00004	0.00059	—	0.00059	0.00054	—	0.00054	—	4.16716	4.16716	0.00017	0.00003	—	4.18146
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00049	0.00041	0.00344	0.00505	0.00001	0.00011	—	0.00011	0.00010	—	0.00010	—	0.68992	0.68992	0.00003	0.00001	—	0.69229
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05150	0.04392	0.04833	0.64110	0.00000	0.00000	0.20914	0.20914	0.00000	0.04902	0.04902	—	191.482	191.482	0.00247	0.00758	0.01502	193.819
Vendor	0.00866	0.00249	0.12295	0.06032	0.00090	0.00090	0.03422	0.03512	0.00090	0.00946	0.01035	—	120.351	120.351	0.00617	0.01681	0.00688	125.521
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00041	0.00035	0.00038	0.00525	0.00000	0.00000	0.00162	0.00162	0.00000	0.00038	0.00038	—	1.51937	1.51937	0.00002	0.00006	0.00196	1.53951
Vendor	0.00007	0.00002	0.00096	0.00047	0.00001	0.00001	0.00027	0.00027	0.00001	0.00007	0.00008	—	0.94178	0.94178	0.00005	0.00013	0.00090	0.98309
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00007	0.00006	0.00007	0.00096	0.00000	0.00000	0.00030	0.00030	0.00000	0.00007	0.00007	—	0.25155	0.25155	< 0.000005	0.00001	0.00033	0.25488
Vendor	0.00001	< 0.000005	0.00018	0.00009	< 0.000005	< 0.000005	0.00005	0.00005	< 0.000005	0.00001	0.00001	—	0.15592	0.15592	0.00001	0.00002	0.00015	0.16276
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
City Park	0.22720	0.20605	0.15165	1.83552	0.00504	0.00283	0.49737	0.50020	0.00264	0.12624	0.12888	—	515.189	515.189	0.02103	0.01892	1.45475	522.808
Total	0.22720	0.20605	0.15165	1.83552	0.00504	0.00283	0.49737	0.50020	0.00264	0.12624	0.12888	—	515.189	515.189	0.02103	0.01892	1.45475	522.808
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
City Park	0.22580	0.20443	0.16476	1.69775	0.00485	0.00284	0.49737	0.50020	0.00264	0.12624	0.12888	—	495.415	495.415	0.02180	0.01978	0.03772	501.891
Total	0.22580	0.20443	0.16476	1.69775	0.00485	0.00284	0.49737	0.50020	0.00264	0.12624	0.12888	—	495.415	495.415	0.02180	0.01978	0.03772	501.891
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
City Park	0.04094	0.03704	0.03038	0.31764	0.00089	0.00052	0.08965	0.09017	0.00048	0.02276	0.02324	—	82.9045	82.9045	0.00359	0.00329	0.10400	84.0772
Total	0.04094	0.03704	0.03038	0.31764	0.00089	0.00052	0.08965	0.09017	0.00048	0.02276	0.02324	—	82.9045	82.9045	0.00359	0.00329	0.10400	84.0772

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.74778	0.74778	0.00007	0.00001	—	0.75214
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.23333	0.23333	0.00002	< 0.000005	—	0.23469
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.98111	0.98111	0.00009	0.00001	—	0.98683
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.74778	0.74778	0.00007	0.00001	—	0.75214
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.23333	0.23333	0.00002	< 0.000005	—	0.23469
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.98111	0.98111	0.00009	0.00001	—	0.98683
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.12380	0.12380	0.00001	< 0.000005	—	0.12453
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.03863	0.03863	< 0.000005	< 0.000005	—	0.03885
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.16243	0.16243	0.00002	< 0.000005	—	0.16338

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.01079	0.01079	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00134	0.00134	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00697	0.00643	0.00033	0.03914	< 0.000005	0.00007	—	0.00007	0.00005	—	0.00005	—	0.16096	0.16096	0.00001	< 0.000005	—	0.16154

Total	0.01909	0.01855	0.00033	0.03914	< 0.000005	0.00007	—	0.00007	0.00005	—	0.00005	—	0.16096	0.16096	0.00001	< 0.000005	—	0.16154
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.01079	0.01079	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00134	0.00134	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.01212	0.01212	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00197	0.00197	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00024	0.00024	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00087	0.00080	0.00004	0.00489	< 0.000005	0.00001	—	0.00001	0.00001	—	0.00001	—	0.01825	0.01825	< 0.000005	< 0.000005	—	0.01832
Total	0.00308	0.00302	0.00004	0.00489	< 0.000005	0.00001	—	0.00001	0.00001	—	0.00001	—	0.01825	0.01825	< 0.000005	< 0.000005	—	0.01832

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.02299	162.001	162.024	0.01780	0.00193	—	163.044
Total	—	—	—	—	—	—	—	—	—	—	—	0.02299	162.001	162.024	0.01780	0.00193	—	163.044
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.02299	162.001	162.024	0.01780	0.00193	—	163.044
Total	—	—	—	—	—	—	—	—	—	—	—	0.02299	162.001	162.024	0.01780	0.00193	—	163.044
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00381	26.8212	26.8250	0.00295	0.00032	—	26.9938
Total	—	—	—	—	—	—	—	—	—	—	—	0.00381	26.8212	26.8250	0.00295	0.00032	—	26.9938

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000

City Park	—	—	—	—	—	—	—	—	—	—	—	1.25142	0.00000	1.25142	0.12507	0.00000	—	4.37828
Total	—	—	—	—	—	—	—	—	—	—	—	1.25142	0.00000	1.25142	0.12507	0.00000	—	4.37828
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	1.25142	0.00000	1.25142	0.12507	0.00000	—	4.37828
Total	—	—	—	—	—	—	—	—	—	—	—	1.25142	0.00000	1.25142	0.12507	0.00000	—	4.37828
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.20719	0.00000	0.20719	0.02071	0.00000	—	0.72487
Total	—	—	—	—	—	—	—	—	—	—	—	0.20719	0.00000	0.20719	0.02071	0.00000	—	0.72487

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation - Overall Site	Site Preparation	9/1/2027	9/21/2027	5.00000	15.0000	Habitat restoration
Grading (including trail)	Grading	9/22/2027	11/23/2027	5.00000	45.0000	Grading overall site
Construction - Nature Center	Building Construction	11/24/2027	3/28/2028	5.00000	90.0000	—
Construction (Balboa Boulevard Access Improvements)	Building Construction	1/1/2028	3/24/2028	5.00000	60.0000	—
Trenching (maintenance yard electricity connection, and lighting)	Trenching	11/24/2027	1/4/2028	5.00000	30.0000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation - Overall Site	Tractors/Loaders/Backhoes	Diesel	Average	1.000000	7.00000	84.0000	0.37000

Site Preparation - Overall Site	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Site Preparation - Overall Site	Scrapers	Diesel	Average	1.000000	8.00000	423.000	0.48000
Grading (including trail)	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Grading (including trail)	Tractors/Loaders/Backhoes	Diesel	Average	2.00000	7.00000	84.0000	0.37000
Grading (including trail)	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Construction - Nature Center	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Construction - Nature Center	Tractors/Loaders/Backhoes	Diesel	Average	2.00000	7.00000	84.0000	0.37000
Construction - Nature Center	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Construction (Balboa Boulevard Access Improvements)	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Construction (Balboa Boulevard Access Improvements)	Tractors/Loaders/Backhoes	Diesel	Average	2.00000	7.00000	84.0000	0.37000
Construction (Balboa Boulevard Access Improvements)	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Construction (Balboa Boulevard Access Improvements)	Plate Compactors	Diesel	Average	1.000000	8.00000	8.00000	0.43000
Trenching (maintenance yard electricity connection, and lighting)	Plate Compactors	Diesel	Average	1.000000	8.00000	8.00000	0.43000
Trenching (maintenance yard electricity connection, and lighting)	Tractors/Loaders/Backhoes	Diesel	Average	1.000000	8.00000	84.0000	0.37000

Trenching (maintenance yard electricity connection, and lighting)	Trenchers	Diesel	Average	1.000000	8.00000	40.0000	0.50000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation - Overall Site	Worker	16.0000	18.5000	LDA,LDT1,LDT2
Site Preparation - Overall Site	Vendor	4.00000	10.2000	HHDT,MHDT
Site Preparation - Overall Site	Hauling	0.00000	20.0000	HHDT
Site Preparation - Overall Site	Onsite truck	0.00000	0.00000	HHDT
Grading (including trail)	Worker	20.0000	18.5000	LDA,LDT1,LDT2
Grading (including trail)	Vendor	4.00000	10.2000	HHDT,MHDT
Grading (including trail)	Hauling	116.667	20.0000	HHDT
Grading (including trail)	Onsite truck	0.00000	0.00000	HHDT
Construction - Nature Center	Worker	20.0000	18.5000	LDA,LDT1,LDT2
Construction - Nature Center	Vendor	10.00000	10.2000	HHDT,MHDT
Construction - Nature Center	Hauling	0.00000	20.0000	HHDT
Construction - Nature Center	Onsite truck	0.00000	0.00000	HHDT
Construction (Balboa Boulevard Access Improvements)	Worker	20.0000	18.5000	LDA,LDT1,LDT2
Construction (Balboa Boulevard Access Improvements)	Vendor	10.00000	10.2000	HHDT,MHDT
Construction (Balboa Boulevard Access Improvements)	Hauling	0.00000	20.0000	HHDT
Construction (Balboa Boulevard Access Improvements)	Onsite truck	0.00000	0.00000	HHDT
Trenching (maintenance yard electricity connection, and lighting)	Worker	16.0000	18.5000	LDA,LDT1,LDT2

Trenching (maintenance yard electricity connection, and lighting)	Vendor	4.00000	10.2000	HHDT,MHDT
Trenching (maintenance yard electricity connection, and lighting)	Hauling	0.00000	20.0000	HHDT
Trenching (maintenance yard electricity connection, and lighting)	Onsite truck	0.00000	0.00000	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation - Overall Site	0.00000	0.00000	7.50000	0.00000	0.00000
Grading (including trail)	42,000.0	0.00000	30.0000	0.00000	0.00000

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00000	531.983	0.03300	0.00400
2028	0.00000	531.983	0.03300	0.00400

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
City Park	69.0000	69.0000	69.0000	25,185.0	702.888	702.888	702.888	256,554

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Parking Lot	Wood Fireplaces	0	0
Parking Lot	Gas Fireplaces	0	0
Parking Lot	Propane Fireplaces	0	0
Parking Lot	Electric Fireplaces	0	0
Parking Lot	No Fireplaces	0	0
Parking Lot	Conventional Wood Stoves	0	0
Parking Lot	Catalytic Wood Stoves	0	0
Parking Lot	Non-Catalytic Wood Stoves	0	0
Parking Lot	Pellet Wood Stoves	0	0
City Park	Wood Fireplaces	0	0

City Park	Gas Fireplaces	0	0
City Park	Propane Fireplaces	0	0
City Park	Electric Fireplaces	0	0
City Park	No Fireplaces	0	0
City Park	Conventional Wood Stoves	0	0
City Park	Catalytic Wood Stoves	0	0
City Park	Non-Catalytic Wood Stoves	0	0
City Park	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0.00000	0.00000	750.000	250.000	54.0000

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	250.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Parking Lot	788.400	346.196	0.0330	0.0040	0.00000
City Park	246.000	346.196	0.0330	0.0040	0.00000

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Parking Lot	0.00000	0.00000
City Park	12,000.0	32,169,996

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Parking Lot	0.00000	0.00000
City Park	2.32200	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
City Park	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	8.74000	annual days of extreme heat

Extreme Precipitation	3.50000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score

Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	46.9944
AQ-PM	55.4076
AQ-DPM	54.6111
Drinking Water	6.18209
Lead Risk Housing	40.0630
Pesticides	0.00000
Toxic Releases	84.5586
Traffic	61.5750

Effect Indicators	—
CleanUp Sites	47.3498
Groundwater	26.3324
Haz Waste Facilities/Generators	11.0788
Impaired Water Bodies	0.00000
Solid Waste	54.8454
Sensitive Population	—
Asthma	9.93270
Cardio-vascular	0.78514
Low Birth Weights	7.95484
Socioeconomic Factor Indicators	—
Education	39.5343
Housing	47.0596
Linguistic	26.4041
Poverty	20.3769
Unemployment	10.6585

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	55.90914924
Employed	88.70781471
Median HI	77.01783652
Education	—
Bachelor's or higher	64.85307327
High school enrollment	100
Preschool enrollment	83.10021814

Transportation	—
Auto Access	89.83703323
Active commuting	57.66713717
Social	—
2-parent households	59.61760554
Voting	47.23469781
Neighborhood	—
Alcohol availability	69.9088926
Park access	81.35506224
Retail density	48.8387014
Supermarket access	51.21262672
Tree canopy	68.86949827
Housing	—
Homeownership	74.16912614
Housing habitability	70.40934172
Low-inc homeowner severe housing cost burden	39.2403439
Low-inc renter severe housing cost burden	57.91094572
Uncrowded housing	51.23829077
Health Outcomes	—
Insured adults	22.41755422
Arthritis	47.0
Asthma ER Admissions	77.3
High Blood Pressure	58.0
Cancer (excluding skin)	32.7
Asthma	49.0
Coronary Heart Disease	54.4
Chronic Obstructive Pulmonary Disease	45.1
Diagnosed Diabetes	72.3

Life Expectancy at Birth	34.9
Cognitively Disabled	74.6
Physically Disabled	50.9
Heart Attack ER Admissions	92.8
Mental Health Not Good	52.8
Chronic Kidney Disease	64.9
Obesity	60.5
Pedestrian Injuries	19.6
Physical Health Not Good	56.1
Stroke	64.5
Health Risk Behaviors	—
Binge Drinking	7.5
Current Smoker	49.4
No Leisure Time for Physical Activity	63.5
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	53.8
Children	72.4
Elderly	64.0
English Speaking	77.2
Foreign-born	52.4
Outdoor Workers	29.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	69.5
Traffic Density	56.2
Traffic Access	23.0
Other Indices	—
Hardship	37.5

Other Decision Support	—
2016 Voting	77.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	10.00000
Healthy Places Index Score for Project Location (b)	75.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Construction: Construction Phases	Construction would occur September 2027 through March 2028.
Construction: Off-Road Equipment	Updated prior modeling
Construction: Dust From Material Movement	42,000 Cu Yds of fill
Construction: Trips and VMT	Updated prior modeling

Operations: Vehicle Data	Operations would result in 69 daily trips
Operations: Energy Use	Updated based on 500 sq ft nature center.
Operations: Water and Waste Water	Updated based on 500 sq ft nature center and city park.

8.4. Construction

8.4.2. Off-Road Equipment

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Site Preparation - Overall Site	Tractors/Loaders/Backhoes	Number per Day	4.00000	1.000000
Site Preparation - Overall Site	Tractors/Loaders/Backhoes	Hours Per Day	8.00000	7.00000

8.4.4. Dust from Material Movement

Phase Name	Model Parameter	Units	Default Value	New Value
Site Preparation - Overall Site	Material Imported	Cubic Yards	—	0.00000
Site Preparation - Overall Site	Material Exported	Cubic Yards	—	0.00000
Site Preparation - Overall Site	Total Acres Graded	acres	22.5000	7.50000
Grading (including trail)	Material Imported	Cubic Yards	—	42,000.0
Grading (including trail)	Material Exported	Cubic Yards	—	0.00000
Grading (including trail)	Total Acres Graded	acres	45.0000	30.0000

8.4.6. Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Site Preparation - Overall Site	Worker	One-Way Trips per Day	7.50000	16.0000
Grading (including trail)	Worker	One-Way Trips per Day	10.00000	20.0000
Construction - Nature Center	Worker	One-Way Trips per Day	0.37800	20.0000
Construction - Nature Center	Vendor	One-Way Trips per Day	0.14751	10.00000
Construction (Balboa Boulevard Access Improvements)	Worker	One-Way Trips per Day	0.37800	20.0000

Construction (Balboa Boulevard Access Improvements)	Vendor	One-Way Trips per Day	0.14751	10.00000
Trenching (maintenance yard electricity connection, and lighting)	Worker	One-Way Trips per Day	7.50000	16.0000

8.5. Operations

8.5.1. Mobile Sources

8.5.1.1. Vehicle Data

Land Use	Model Parameter	Units	Default Value	New Value
City Park	Weekday Trip Rate	size/day	0.78000	2.55556
City Park	Saturday Trip Rate	size/day	1.96000	2.55556
City Park	Sunday Trip Rate	size/day	2.19000	2.55556

8.5.3. Energy Usage

Land Use	Model Parameter	Units	Default Value	New Value
City Park	Electricity	kWh/yr	0.00000	246.000
City Park	Electricity (Subject to Title 24)	kWh/yr	0.00000	246.000

8.5.4. Water and Waste Water

Land Use	Model Parameter	Units	Default Value	New Value
City Park	Indoor Water	gal/year	0.00000	12,000.0
City Park	Outdoor Water	gal/year	777.622	32,169,996

13230 Talbert Regional Park

Construction

Source	Percent	Total MTCO2	Gallons Diesel	Gallons Gasoline
2027				
Off-road	36.9%	108.71	10,647	
Electricity	0.0%	0		
Worker	4.2%	12.24		1,394
Vendor	3.0%	8.94	875	
Hauling	56.0%	165	16,172	
Onsite Truck	0.0%	0		
Total	*100.0%*	*295*	*27,694*	*1,394*
2028				
Off-road	81.9%	139.98	13,710	
Electricity	0.0%	0		
Worker	8.1%	13.92		1,363
Vendor	10.0%	17.10	1,675	
Hauling	0.0%	0	0	
Onsite Truck	0.0%	0		
Total	*100.0%*	*171*	*15,385*	*1,363*

Total Petroleum	**45,837**
Total Diesel	43,079
Total Gasoline	2,758
off-road	24,357
trucks	18,722
workers	2,758

Table 2.1 U.S. Default Factors for Calculating CO_2 Emissions from Combustion of Transport Fuels

Fuel Type	Carbon Content (Per Unit Energy)	Heat Content	Fraction Oxidized	CO_2 Emission Factor (Per Unit Volume)
Fuels Measured in Gallons	kg C / MMBtu	MMBtu / barrel		kg CO_2 / gallon
Gasoline	19.2	5.25	1	8.78
Diesel Fuel	20.2	5.80	1	10.21

Constants+N3:S7NN3:Q6		
Fuel	**KgCO2/Gall**	1000 Kg in MT
Gasoline	8.78	
Diesel	10.21	

Source: The Climate Registry 2023

Appendix B
Biological Resources

DRAFT

Biological Technical Report

Talbert Regional Park Master Plan Project

OCTOBER 2025

Prepared for:

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AMSL	Above Mean Sea Level
AOS	American Ornithological Society
BCC	Birds of Conservation Concern
BMP	Best Management Practice
BUOW	Burrowing Owl
CAGN	Coastal California gnatcatcher
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CMP	Compensatory Mitigation Plan
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ECOC	Environmental Conservation Online System
EPA	Environmental Protection Agency
FP	Fully Protected Species
FESA	Federal Endangered Species Act
GIS	Geographic Information System
GPS	Geographic Positioning System
HCP	Habitat Conservation Plan
HEP	Habitat Enhancement Plan
HMMP	Habitat Mitigation Monitoring Plan
IPAC	Information for Planning and Consultation
LBVI	Least Bell's vireo
MBTA	Migratory Bird Treaty Act
MM	Mitigation Measure
MPH	Miles per hour
NABA	North American Butterfly Association
NCCP	Natural Community Conservation Plan
OCPD	Orange County Parks Department
OCDPW	Orange County Department of Public Works
OCFCD	Orange County Flood Control District
OHWM	ordinary high-water mark
PDF	proposed project design feature
Project	Talbert Regional Park Master Plan / Restoration Project
RWQCB	Regional Water Quality Control Board
RPM	Relatively Permanent Water
SPPP	Stormwater Pollution Prevention Program

Acronym/Abbreviation	Definition
SSC	California Species of Special Concern
SWFL	Southwestern willow flycatcher
TNW	Traditional Navigable Water
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
USFWS	U.S. Fish and Wildlife Service
WL	Watch List Species
WRCC	Western Regional Climate Center

1 Introduction

The Talbert Regional Park Master Plan Project (project) is proposed by the Orange County Parks Department (OC Parks) in conjunction with the Orange County Department of Public Works (OCPW) and encompasses management actions and amenities within the approximately 180-acre area (project site) comprising Talbert Regional Park in the City of Costa Mesa, California (Figure 1). The North and South Talbert areas of the Regional Park will collectively be referred to as the project site, or simply the Park.

This biological resources technical report describes the biological conditions of the project site in terms of vegetation/land cover types, flora, wildlife, and wildlife habitats based on biological surveys and focused species surveys conducted in 2019, 2020, 2022, and 2025. This report will serve to document the existing conditions on the project site (for vegetation communities, a 500-foot buffer was included around the project site boundary, hereafter referred to as the study area); provide the results of focused species surveys; quantify potential direct and indirect impacts to biological resources that would result from implementation of the proposed project; discuss those impacts in terms of biological significance in view of federal, state, and local laws and policies; and specify measures to avoid, minimize, and/or mitigate any significant impacts that would occur to biological resources as a result of project implementation.

1.1 Project Description

The proposed project components are fully described in Section 5.1, Proposed Project Components, below.

The Park is divided into six separate plant groups, identified as "zones", and is based upon the progression of plant groups and changing conditions found along the Santa Ana River. The first zone is designated "Intensive Use Area" and the plant material has been selected based on use instead of its origins on the site. The second zone, a "Border Planting" zone is planted with vegetation designed to maintain boundaries and screen the embankment of the Greenville-Banning Channel. Another zone, the "Coastal Strand" consists of gentle slopes and dunes, a habitat largely destroyed by the advance of civilization in the area. The "Native Grassland" zone is the largest zone in the park and provides opportunities for wildlife habitats. An "Alluvial Woodland" zone contains a wide variety of plant and animal life and is the most secluded area in the park. Finally, the "Wetland Zone" consists of the southern 14.8 acres of the Park and contains elements of riparian woodland and mulefat scrub.

The Park also consists of a small active park that allows picnicking and informal recreation, while the trail system allows for observation of natural resources and linkage to other parks up and down stream along the Santa Ana River. Group use within the habitat areas is permitted by guided walks and individual use is facilitated by interpretive signage.

To date, OC Parks has completed the Talbert Regional Park Final Habitat Restoration Plan (Restoration Plan or Plan), a planning document that identifies existing park conditions, and provides recommendations for park restoration and passive recreational use. This Plan addresses natural preservation through non-native plant removal, habitat restoration, passive recreation, and public use of multiple interest areas (Victoria Pond and a BMX bicycle area). Highlights of the Restoration Plan address the water resources of the Park within South Talbert containing elements of riparian woodland and mulefat scrub, and North Talbert along an area referred to as Placentia Drain. OC Parks intends to use a hybrid of select pieces of the three restoration alternatives (minimal,

medium, and maximum touch) detailed in the Restoration Plan, as well as potentially other design ideas that arise during the Master Plan process.

1.2 Project Background

OC Parks proposes to design and implement a Master Plan for the project site, which would create a holistic approach to the restoration and future use within the project site. Various restoration and vegetation management efforts have been implemented at the project site over the past two decades. The following discussion below includes Dudek's knowledge on the project site background and history to date.

The Park, particularly the southern portion, has been used for various mitigation and habitat enhancement efforts over the years by various permittees and stakeholders. Victoria Pond was excavated during the 1980's as an U.S. Army Corps of Engineers (USACE) mitigation project to establish open water. Essentially, the pond is expressed groundwater that has persisted over the past few decades and has created habitat for waterfowl and various wetland and riparian plants.

A 2003 Habitat Enhancement Plan (HEP) was prepared (and implemented to the best of Dudek's knowledge) on 13 acres within the central portion of the southern portion of the Park. This effort did not appear to be associated with any mitigation credits, and was funded by grant money.

Mitigation was carried out within the southern portion of the Park, based on the April 2009 *County issued Plans and Special Provisions for the Construction of Native Habitats within Talbert Nature Preserve* (County 2009). The maintenance and monitoring period began in 2010, and continued for seven years, after which time the effort was reevaluated due to significant loss of willow riparian coverage due to mortality caused by invasive shot hole borer (ISHB). An additional constraint observed during this maintenance and monitoring period was that, while native riparian vegetation communities are present within this region of the park, they primarily consisted of large, mature willows and their clonal stump-sprouts, which likely established prior to the channelization of the Santa Ana River when the area was an active river floodplain. Young saplings of native trees were generally not present, indicating that upper soil growing conditions had changed over time, making establishment of new riparian habitat less suited to present conditions. Aside from likely alterations in hydrology, soil testing illustrated that many portions of the park's soil were hyper-saline, and favored salt marsh species as opposed to freshwater supported riparian species.

In 2017, Orange County Public Works implemented mitigation on Orange County Flood Control District (OCFCD) property abutting the western South Talbert Preserve property line and directly east of the Santa Ana River Channel. Mitigation included establishment of 1.56 acres (1.26 acres required) of non-tidal coastal saltmarsh wetlands from existing disturbed upland habitat. Mitigation was implemented under permits and agreements issued from the California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), California Coastal Commission (CCC) and USACE as described in the *Habitat Mitigation and Monitoring Plan for the Edinger Bridge Replacement Project* (Dudek, 2016). The 5-year establishment mitigation period was completed in 2023. As previously discussed, it appears that soil salinity conditions support this type of vegetation.

2 Project Setting

2.1 Project Location

The project site is located within the City of Costa Mesa in Orange County, California, within the boundaries of Talbert Regional Park that is owned and operated by the County of Orange (County). The proposed project encompasses the northern, southern, and western boundary of Talbert Regional Park and the northwestern section of Canyon Park. The study area, which includes the direct project site boundary plus a 500-foot study area buffer to account for potential indirect impacts, is located on the U.S. Geological Survey (USGS) 7.5-Minute map, Newport Beach quadrangle, Sections 8, 17 and 20, Township 6 South, and Range 10 West. The Principal Meridian of the project is at latitude 33.652176° N; and longitude -117.949693°W. The Park is approximately 1.5 miles west of State Route 55 (SR-55) and 1.0 mile north of SR-1 (Figures 1 and 2).

2.2 Climate

The study area is located within the Peninsular Range, less than 1 mile from the Pacific Ocean. It is in a Mediterranean climate characterized by mild, dry summers and wet winters. Average temperatures near Newport Beach range from approximately 55° Fahrenheit (F) to 68°F, and the area generally receives an average rainfall of less than 11 inches per year (WRCC 2025).

2.3 Soils

According to U.S. Department of Agriculture there are five soil types found in the project area: Bolsa silt loam; Hueneme fine sandy loam; Hueneme fine sandy loam, drained; Myford sandy loam, 9 to 30% slopes, eroded; and Metz loamy sand, moderately fine substratum (Figure 4: Vegetation Communities and Soils) (USDA 2025).

Bolsa silt loam is a poorly drained soil that derived from mixed alluvium and contains silt loam and silty clay loam. Hueneme fine sandy loam is comprised of fine sandy loam and stratified sand to silt loam. Myford sandy loam, 9 to 30% slopes, eroded, is similar to the previous description but often very shallow because of erosion. Metz loamy sand is deep, excessively drained soil formed in alluvial material from mixed, but dominantly sedimentary rocks (USDA 2025).

2.4 Terrain

The topography within the study area is relatively flat and varies from approximately 5 feet above mean sea level (amsl) in the southern portion to approximately 16 feet amsl in the northern portion. The eastern portion of the project site is bordered by a mesa that is approximately 50-80 feet amsl, and the western portion of the project site is bordered by the concrete-lined Santa Ana River and Banning Channel. The study area was historically part of the Santa Ana River floodplain prior to channelization of the Santa Ana River, and is currently indirectly connected to the River through groundwater sources.

2.5 Land Uses

2.5.1 On-Site Land Uses

The study area includes Talbert Regional Park and immediately surrounding areas that are crossed with a network of dirt trails that are open to the public. Multiple areas within the site contain various stages of habitat restoration as part of several non-related projects. The current and proposed land uses on-site would be consistent with the currently designated Public/Institutional General Plan land use mapped for the site (Costa Mesa 2016).

2.5.2 Surrounding Land Uses

Land uses surrounding the study area consist of residential development to the north; the Banning Ranch property, which contains a mix of vacant land and oil production facilities to the south; Fairview Park and residential development to the east; and the Santa Ana River to the west. The site is bisected by Victoria Street, which divides the study area into North Talbert and South Talbert (Figure 2).

3 Methodology

Data regarding biological resources present in the study area were obtained through a review of pertinent literature and field reconnaissance; both are described in detail below.

3.1 Literature Review

Special-status biological resources present or potentially present in the study area were identified through a literature search, conducted in 2019, and updated in 2022 and 2025. The following sources were used during the literature review process

- California Natural Diversity Database (CNDDB) (CDFW 2025) was queried to compile a list of potentially occurring flora and fauna tracked by the CNDDB in the Newport Beach quadrangle and surrounding six quadrangles.
- California Native Plant Society (CNPS) *Inventory of Rare, Threatened and Endangered Plants of California*, 9th online edition (CNPS 2025), was searched to compile a list of potentially occurring special-status plants in the Newport Beach quadrangle and surrounding six quadrangles.
- USFWS Environmental Conservation Online System (ECOS) *Information for Planning and Consultation* (IPAC), (USFWS 2025) was searched to compile a list of potentially occurring federally-listed special-status species known to occur on and immediately adjacent to the Park.
- 2015 Final *Habitat Restoration Plan* for Talbert Regional Park (Moffatt & Nichol et al., 2015).
- 2016 Habitat Mitigation and Monitoring Plan for the Edinger Bridge Replacement Project (Dudek, 2016).

The Central–Coastal Subregion NCCP/HCP (County of Orange 1996) also was also reviewed with respect to regional reserve planning and conservation (Figure 3: Central-Coastal NCC/HCP Area Map).

3.2 Field Reconnaissance

In October 2019, Dudek conducted vegetation mapping, jurisdictional delineation, and biological reconnaissance surveys. The following focused surveys were conducted in 2020: rare plant; burrowing owl (*Athene cunicularia*); coastal California gnatcatcher (*Polioptila californica californica*); least Bell's vireo (*Vireo bellii pusillus*); and southwestern willow flycatcher (*Empidonax traillii extimus*). Botanical reference checks for certain target plant species were conducted prior to focused plant surveys to ensure the surveys were conducting during their respective blooming periods. In May of 2022, Dudek biologists conducted an updated biological reconnaissance of the project site, focusing on proposed improvement and restoration areas, to assess whether vegetation communities and habitat conditions on the project site remained consistent compared to the 2019 biological reconnaissance. Finally, updated focused surveys for rare plants, burrowing owl, least Bell's vireo and southwestern willow flycatcher, coastal California gnatcatcher, as well as focused surveys for Crotch's bumble bee, were conducted in 2025. Table 1 lists the dates, conditions, and focus for each survey.

Table 1. Survey Dates and Conditions

Date	Biologist	Survey Type	Survey Time	Weather Conditions
10/10/2019	TM, ES	Biological Reconnaissance	9:30 A.M. – 3:30 P.M.	69°F - 78°F; 0% - 10% cloud cover; 1-2 mph winds

Table 1. Survey Dates and Conditions

Date	Biologist	Survey Type	Survey Time	Weather Conditions
10/16/2019	TM, ES	Biological Reconnaissance	9:00 A.M. – 4:00 P.M.	66°F - 75°F; 5% - 10% cloud cover; 2-3 mph winds
10/23/2019	TM, ES	Jurisdictional Delineation	9:00 A.M. – 4:00 P.M.	68°F - 75°F; 2% - 5% cloud cover; 1-2 mph winds
10/30/2019	TM, TP	Jurisdictional Delineation	9:15 A.M. – 5:20 P.M.	67°F - 77°F; 0% - 10% cloud cover; 0-4 mph winds
04/13/2020	TM, TP	BUOW Pass 1	06:30 A.M. – 08:00 A.M.	63°F - 65°F; 90% - 90% cloud cover; 0-3 mph winds
05/01/2020	PL, LS	LBVI Pass 1	6:30 A.M. – 11:00 A.M.	64°F - 68°F; 0% - 90% cloud cover; 0-5 mph winds
05/04/2020	TM	CAGN Pass 1	7:00 A.M. – 11:00 A.M.	66°F - 76°F; 0% - 90% cloud cover; 0-1 mph winds
5/12/2020	TM, RS	LBVI Pass 2,	7:00 A.M. – 11:00 A.M.	59°F - 70°F; 0% - 80% cloud cover; 1-2 mph winds
5/15/2020	TM, RS	BUOW Pass 2	7:00 A.M. – 8:00 A.M.	60°F - 65°F; 80% - 80% cloud cover; 0-2 mph winds
05/18/2020	TM	CAGN Pass 2	7:00 A.M. – 10:00 A.M.	64°F; 80% cloud cover; 1-2 mph winds
05/19/2020	KD, JW	Botanical Pass 1 (North Talbert)	8:30 A.M. – 3:00 P.M.	61°F - 70°F; 0% cloud cover; 0-15 mph winds
05/20/2020	KD, RS, JW	Botanical Pass 1 (South South Talbert)	9:00 A.M. – 4:15 P.M.	63°F - 68°F; 0% cloud cover; 1-15 mph winds
05/22/2020	PL, TM	SWFL Pass 1 LBVI Pass 3	7:20 A.M. – 11:00 A.M.	64°F - 72°F; 10% - 90% cloud cover; 1-5 mph winds
06/03/2020	PL, ES	SWFL Pass 2 LBVI Pass 4	7:00 A.M. – 10:45 A.M.	65°F - 73°F; 5% - 10% cloud cover; 0-5 mph winds
06/12/2020	TM	CAGN Pass 3 BUOW Pass 3	7:00 A.M. – 10:00 A.M.	68°F; 0% cloud cover; 1-3 mph winds
06/16/2020	PL, RS	SWFL Pass 3 LBVI Pass 5	6:30 A.M. – 10:00 A.M.	63°F - 68°F; 500% cloud cover; 1-4 mph winds
07/02/2020	PL, RS	SWFL Pass 4 LBVI Pass 6 BUOW Pass 4	6:40 A.M. – 11:00 A.M.	62°F - 67°F; 500% cloud cover; 0-3 mph winds
07/15/2020	PL	SWFL Pass 5 LBVI Pass 7	6:40 A.M. – 10:30 A.M.	65°F - 73°F; 40% - 90% cloud cover; 0-3 mph winds
07/31/2020	PL	LBVI Pass 8	6:30 A.M. – 10:20 A.M.	64°F - 75°F; 0% cloud cover; 0-5 mph winds
08/05/2020	JW	Botanical Reference Check for Tarplant	10:30 A.M. – 11:30 A.M.	71°F; 20% - 70% cloud cover; 0-3 mph winds
08/18/2020	OK, JW, KD, RS	Botanical Pass 2	8:00 A.M. – 3:30 P.M.	72°F - 90°F; 20% cloud cover; 0-5 mph winds
05/06/2022	TM, KN, VG	Biological Reconnaissance Update	9:00 A.M. – 2:45 P.M.	63°F - 69°F; 0% - 90% cloud cover; 2-5 mph winds

Table 1. Survey Dates and Conditions

Date	Biologist	Survey Type	Survey Time	Weather Conditions
4/10/2025	MMu	Burrowing Owl Pass 1	6:30 A.M. – 9:30 A.M.	55°F - 66°F; 30% - 10% cloud cover; 0-3 mph winds
4/22/2025	JE	Rare Plants Pass 1	9:10 A.M – 4:00 P.M.	58°F - 65°F; 0% - 90% cloud cover; 3-14 mph winds
4/23/2025	PL	LBVI Pass 1	5:50 A.M. – 11:00 A.M	54–63°F; 100% cloud cover; 0–3 mph winds
4/24/2025	KN, LB	Crotch's Bumble Bee Pass 1	8:30 A.M. – 1:30 P.M.	60°F - 63°F; 80% - 100% cloud cover; 0-5 mph winds
05/01/2025	AV, MM	Burrowing Owl Pass 2	6:00 A.M. – 10:00 A.M.	60°F - 66°F; 40% - 100% cloud cover; 1-9 mph winds
5/01/2025	TM	CAGN Pass 1	7:30 A.M. – 10:00 A.M.	65-67°F; 100% cloud cover; 1-2 mph winds
5/6/2025	PL	LBVI Pass 2	5:45 A.M.–11:00 A.M.	56–64°F; 100% cloud cover; 0–4 mph winds
5/08/2025	TM	CAGN Pass 2	9:00 A.M. – 11:00 A.M	66°F; 0% cloud cover; 1-2 mph winds
5/15/2025	TM	CAGN Pass 3	8:45 A.M. – 10:45 A.M.	64°F; 50% cloud cover; 1-3 mph winds
5/17/2025	PL	SWFL Pass 1 LBVI Pass 3	5:30 A.M.–11:00 A.M.	57–61°F; 100% cloud cover; 0–7 mph winds
5/22/2025	JE, NV	Burrowing Owl Pass 3	7:00 A.M. – 10:00 A.M.	63°F - 69°F; 50% - 90% cloud cover; 0-8 mph winds
5/22/2025	TM	CAGN Pass 4	10:00 A.M. – 11:30 A.M	64°F; 50% cloud cover; 0–1 mph winds
5/28/2025	ES, KN	Crotch's Bumble bee (North) Pass 2	9:30 A.M. – 2:00 P.M.	65°F - 68°F; 100% cloud cover; 3-5 mph winds
5/28/2025	PL	LBV Pass 4	6:00 A.M.–11:00 A.M.	58–61°F; 100–80% cc; 1–5 mph winds
5/29/2025	TM	CAGN Pass 5	10:00 A.M. – 11:30 A.M.	69°F; 70% cloud cover; 0–1 mph winds
5/30/2025	ES, KN	Crotch's Bumble Bee (South) Pass 2	9:00 A.M. – 2:00 P.M.	68°F - 75°F; 0% - 100% cloud cover; 1-4 mph winds
6/01/2025	PL	SWFL Pass 2	5:30 A.M.–11:00 A.M.	64–76°F; 100–70% cloud cover; 0–5 mph winds
6/05/2025	TM	CAGN Pass 6	8:30 A.M. – 10:00 A.M.	65°F; 100% cloud cover; 1-2 mph winds
6/14/2025	PL	SWFL Pass 3 LBV Pass 5	5:40 A.M.–11:00 A.M.	63–69°F; 100% cloud cover; 0–3 mph winds
6/18/2025	ES, JE	Burrowing Owl Pass 4	7:00 A.M. – 10:00 A.M.	64°F - 82°F; 0% - 10% cloud cover; 0-2 mph winds
6/24/2025	AV, ES, ZP	Rare Plants Pass 2	9:30 A.M. – 3:30 P.M.	66°F - 80°F; 0% cloud cover; 0-3 mph winds
6/25/2025	ES, KN	Crotch's Bumble Bee Pass 3	9:00 A.M. – 2:00 P.M.	63°F - 73°F; 0% - 100% cloud cover; 1-5 mph winds

Table 1. Survey Dates and Conditions

Date	Biologist	Survey Type	Survey Time	Weather Conditions
6/25/2025	PL	LBV Pass 6	7:00 A.M.–11:00 A.M.	64–73°F; 100–0% cloud cover; 0–4 mph winds
6/29/2025	PL	SWFL Pass 4	6:00 A.M.–10:30 A.M.	62–71°F; 100–10% cloud cover; 0–4 mph winds
7/06/2025	PL	SWFL Pass 5	5:45 A.M.–10:30 A.M.	63–74°F; 100-0% cc; 0–4 mph winds
7/16/2025	PL	LBVI Pass 7	5:45 AM–11:00 AM	64–72°F; 100–60% cc; 0–5 mph wind
7/26/2025	PL	LBVI Pass 8	6:00 AM–11:00 AM	63–71°F; 100–40% cc; 0–5 mph wind

Notes: mph = miles per hour; °F = degrees Fahrenheit; CAGN = Coastal California Gnatcatcher; LBVI = Least Bell's Vireo; SWFL = Southwestern Willow Flycatcher
Personnel: AV = Aleen Vartivarian; ES = Eileen Salas; JE = Josh Elson; JW= Janice Wondolleck; KD= Kathleen Dayton; KN= Kimberly Narel; LS= Lily Sam; LB = Luz Badillo; MM = Megan Minter; MMu= Max Murray; NV = Nicholas Vinas; OK= Olivia Koziel; PL = Paul Lemons; RS = Rachel Swick; TP = Tracy Park; TM = Tommy Molioo; VG= Valerie Goodwin; ZP = Zarina Pringle

3.2.1 Vegetation Communities and Land Cover Types

Dudek Biologists Tommy Molioo, Eilleen Salas, and Tracy Park mapped vegetation communities in the field directly onto a 250-scale (1 inch = 250 feet) aerial photograph of the direct project footprint and 500-foot buffer, encompassing the study area (Source: Google 2025). Following completion of the fieldwork, all vegetation polygons were transferred to a topographic base and digitized using ArcGIS and a geographic information system (GIS) coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover present within the project area was determined. Native plant community classifications used in this report follow the Habitat Classification System for Orange County (County of Orange 1992) and CNPS's A Manual of California Vegetation (Sawyer et al. 2009) where feasible, with modifications to accommodate the lack of conformity of the observed communities to those listed in the Habitat Classification System for Orange County. The initial mapping of the study area utilized an approximately ¼-acre minimum mapping unit for vegetation community polygons (i.e., clusters of particular vegetation types smaller than ¼-acre were not necessarily mapped separately from the surrounding, larger vegetation community). A second biological reconnaissance was conducted by Dudek biologists Tommy Molioo, Kimberly Narel, and Valerie Goodwin in May 2022 to ensure vegetation communities and land covers on site had not changed substantially from the original biological reconnaissance conducted in 2019 (Figure 4, Vegetation Communities and Soils).

3.2.2 Flora

All plant species encountered during the field reconnaissance surveys and jurisdictional delineations were identified and recorded. Latin and common names for plant species with a California Rare Plant Rank (formerly CNPS List) follow the California Native Plant Society On-Line Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2025). For plant species without a California Rare Plant Rank, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2019), and common names follow the California Natural Community list (CDFW 2025) or the United States Department of Agriculture (USDA) Natural Resources Conservation Service Plants Database (USDA 2025a). A list of plant species observed in the study area during initial surveys is presented in Appendix A: Species Compendium.

3.2.3 Fauna

Wildlife species detected during the field surveys by sight, calls, tracks, scat, or other signs were recorded. Binoculars were used to aid in the identification of observed wildlife. In addition to species actually detected, expected wildlife use of the study area was determined by known habitat preferences of local species and knowledge of their relative distributions in the area. Latin and common names of animals follow Crother (2017) for reptiles and amphibians, American Ornithological Society (AOS) (2018) for birds, Wilson and Reeder (2005) for mammals, North American Butterfly Association (NABA) (2016) for butterflies, and Moyle (2002) for fish. A cumulative list of wildlife species observed within the study area is presented in Appendix A: Species Compendium. Focused surveys for certain special-status wildlife were conducted in 2020 and 2025, and are discussed in further detail in Section 5.4.2.

3.2.4 Special-Status and/or Regulated Resources

The following focused surveys for special-status species were conducted in 2020: rare plant surveys; burrowing owl; coastal California gnatcatcher; least Bell's vireo; and southwestern willow flycatcher. Updated focused surveys were conducted in 2025 for the above special-status species; in addition, photograph-only focused surveys for Crotch's bumble bee were conducted. The methods of the focused surveys are described in further detail below.

Coastal California Gnatcatcher Focused Survey

The presence/absence focused survey for coastal California gnatcatcher was conducted for the project between May 4, 2020, and June 12, 2020. The survey was conducted within weather conditions and time frames appropriate for the detection of gnatcatchers. Weather conditions and survey dates are provided in Table 1. The survey routes focused on areas that contain typical suitable habitat to support coastal California gnatcatcher (i.e., California sagebrush-dominated scrub) as well as additional vegetation types that would not typically support CAGN but were included in the survey area due to the observation of foraging and dispersing coastal California gnatcatcher on the project site within these vegetation types.

The survey was conducted following the currently accepted protocol of the U.S. Fish and Wildlife Service (USFWS), Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol (USFWS 1997). The study area is part of the Reserve System of the Central/Coastal Subarea within the Orange County Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) and the project Applicant, the County of Orange, is a signatory to the NCCP/HCP. Therefore, the CAGN focused survey included three survey passes at a minimum of 7-day intervals between visits during the breeding season (March 14 through June 30). In accordance with the protocol, no more than 500 acres of suitable habitat were surveyed by a single permitted biologist during each site visit conducted. Survey routes completely covered all areas of suitable CAGN habitat within the survey area and allowed for complete audible and visual coverage of all suitable CAGN habitat on site. A recording of gnatcatcher vocalizations was played approximately every 50–500 feet to induce responses from potentially present gnatcatchers. Vocalization-playback would have been terminated immediately upon detection of any gnatcatchers to minimize the potential for harassment.

Least Bell's Vireo and Southwestern Willow Flycatcher Focused Survey

Eight protocol-level presence/absence surveys for the state- and federally-listed endangered least Bell's vireo and five protocol-level presence/absence surveys for the state-and federally-listed endangered southwestern willow

flycatcher were conducted on site in 2020, and again in 2025 (Table 1). Surveys were conducted in suitable riparian communities on the project site including: arroyo willow, arroyo willow/mulefat, black willow, black willow/mulefat, blue elderberry-toyon, California sycamore-coast live oak, mulefat thickets, mulefat-blue elderberry, mulefat-Menzies' goldenbush-quailbush, and white alder-California sycamore. Weather conditions, time of day, and season were appropriate for the detection of both species (Western Regional Climate Center, 2025).

As directed by Stacey Love, United States Fish and Wildlife Service (USFWS) Recovery Permit Coordinator (via email sent on April 27, 2016), surveys for least Bell's vireo and southwestern willow flycatcher were not conducted concurrently. Due to differences in detectability, surveys were conducted sequentially, with surveys for the flycatcher first (i.e., first thing in the morning) and surveys for the vireo conducted afterwards. The 2025 updated focused surveys for least Bell's vireo and southwestern willow flycatcher were conducted separately as well as sequentially. Additionally, for linear survey routes within a riparian corridor, flycatchers were surveyed from the starting point to the end, and vireos were surveyed on the way back. The route was arranged to cover all suitable habitat on site.

The five surveys conducted for flycatcher followed the currently accepted protocol (A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher [Sogge et al. 2010]), which states that a minimum of five survey visits is needed to evaluate project effects on flycatchers. It is recommended that one survey is made between May 15 and 31, two surveys between June 1 and June 24, and two surveys between June 25 and July 17. Surveys during the final period (June 25 and July 17) were separated by at least five days. A tape of recorded flycatcher vocalizations was used, approximately every 50 to 500 feet within suitable habitat, to induce flycatcher responses. If a flycatcher had been detected, playing of the tape would have ceased to avoid harassment.

The eight surveys for least Bell's vireo followed the currently accepted *Least Bell's Vireo Survey Guidelines* (USFWS, 2001), which states that a minimum of eight survey visits should be made to all riparian areas and any other potential vireo habitats between April 10 and July 31. The site visits are required to be conducted at least 10 days apart to maximize the detection of early and late arrivals, females, non-vocal birds, and nesting pairs. Taped playback of vireo vocalizations were not used during the surveys. Surveys were conducted between dawn and noon and were not conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather (Regional Weather Climate Center, 2025). Appendix E: 2020 and 2025 Focused Least Bell's Vireo and Southwestern Willow Flycatcher Survey Reports, further details these focused survey methodologies.

Focused Rare Plant Surveys

Focused surveys for special-status plants were conducted in the spring and summer of 2020 and 2025 on the project site. Field survey methods and mapping of rare plants conformed to CNPS's Botanical Survey Guidelines (CNPS 2001), Protocols for Surveying and Evaluating Impacts to Special Status Native Populations and Natural Communities (CDFW 2018), and General Rare Plant Survey Guidelines (Cypher 2002). The project site boundary plus a 500-foot study area buffer was assessed during focused rare plant surveys to account for immediately adjacent off-site vegetation that could potentially be indirectly impacted by implementation of the proposed project.

Focused Burrowing Owl Surveys

Focused surveys for burrowing owl were conducted in 2020 and 2025 to determine the number of burrowing owls on site, record behavior, identify suitable burrows, and map the locations of any burrowing owls and suitable burrows within vegetation communities on the study area. The burrowing owl surveys followed protocols outlined in the CDFW *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). Surveys were focused on suitable habitat

for burrowing owl located on the study area, which includes non-native grasslands and disturbed habitat areas typically found along dirt trails.

Focused Crotch's Bumble Bee Surveys

Focused surveys for Crotch's bumble bee were conducted in 2025 during the colony active period within suitable habitat in the project site to determine the presence/absence of this species, which is proposed for listing as endangered under the California Endangered Species Act (CESA). The project site was surveyed by walking meandering transects throughout the Park (Figure 1). The surveys consisted of three photograph-only passes that were conducted in accordance with the CDFW *Survey Considerations for CESA Candidate Bumble Bee Species* document issued June 6, 2023 (CDFW 2023b).

Dudek biologists conducted three evenly spaced protocol level surveys for Crotch's bumble bee in April, May, and June, 2025 (Table 1). The surveys were conducted by qualified biologists with expertise in surveying for Crotch's bumble bee. Surveys occurred after sunrise and 3 hours before sunset and were not conducted during wet conditions (e.g., foggy, raining, or drizzling) or windy conditions (i.e., sustained winds greater than 8 mph). The surveys were conducted during optimal conditions when there was sunny to partly sunny skies that were greater than 65° Fahrenheit. Suitable habitat within the project site was visually surveyed for one person-hour per three acres of potential habitat. Biologists walked wandering transects through suitable habitat with a goal of observing bumble bees in passing and observing bumble bee nest sites associated with small mammal burrow or other appropriate soil cavities. These transects were walked at 1 person-hour per three acres as the protocol requires.

3.2.4.1 Jurisdictional Wetlands Delineation

In October 2019, Dudek conducted a formal jurisdictional wetlands delineation within the study area. All areas identified as being potentially subject to the jurisdiction of the USACE, Regional Water Quality Control Board (RWQCB), CDFW, and CCC were field-verified and mapped.

The wetlands delineation was performed in accordance with the methods prescribed in the *1987 Wetlands Delineation Manual* (USACE 1987), the *2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (USACE 2008), and the USACE and Environmental Protection Agency (EPA) Rapanos Guidance (USACE and EPA 2008).

Pursuant to the federal Clean Water Act (CWA), USACE and RWQCB jurisdictional areas include those supporting all three wetlands criteria described in the USACE manual: hydric soils, hydrology, and hydrophytic vegetation. The USACE/EPA Rapanos Guidance states that the USACE will regulate traditional navigable "waters of the United States" (TNW), adjacent wetlands, and relatively permanent waters tributary to TNWs, and adjacent wetlands if there is a significant nexus from the site. Areas regulated by the RWQCB/CDFW/CCC are generally coincident with the USACE, but can also include isolated features that have evidence of surface water inundation pursuant to the state Porter–Cologne Act. These areas are defined in the State Water Resources Control Board *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (SWRCB 2021).

A predominance of hydrophytic vegetation, where associated with a stream channel, was used to determine CDFW-regulated riparian areas. Streambeds under the jurisdiction of CDFW were delineated using the Cowardin method of waters classification, which defines waters boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) (Cowardin et al. 1979).

Features that convey or hold water are regulated by multiple agencies. Federal, state, and local agencies have different definitions and terminology for these types of features. Water-dependent resources regulated by USACE, RWQCB, CDFW, and the CCC are collectively referred to as jurisdictional aquatic resources herein. Terminology used in this document to distinguish each jurisdictional aquatic resource according to the agency that regulates the resource is as follows:

- **USACE and RWQCB: "**Wetland" and "non-wetland waters." Wetland waters of the United States/State and non-wetland waters of the United States/State are subject to regulation by USACE and RWQCB, pursuant to the Clean Water Act and Porter-Cologne Act. Within the study area, USACE waters of the United States and wetlands, and RWQCB waters of the State and wetlands overlap, and therefore are combined under one term: "non-wetland waters" or "wetlands."
- **CDFW and CCC:** "Riparian areas" and "streambeds." Lakes, rivers, and streambeds, including any associated riparian habitat, are subject to regulation by CDFW, pursuant to section 1600 et seq. of the California Fish and Game Code. Within the study area, CDFW streambeds are synonymous with USACE and RWQCB non-wetland waters. USACE and RWQCB wetlands are also under CDFW jurisdiction as riparian or other habitat associated with streams and impoundments. In addition, CDFW jurisdiction extends to riparian areas are not USACE and RWQCB wetlands because these areas lacked all three federal wetland parameters (hydrophytic vegetation, hydric soils, and hydrology) and are located above the ordinary high water mark of any streams or impoundments. CCC defines coastal wetlands broadly under the Coastal Act and therefore include all USACE and RWQCB wetlands and non-wetland waters, as well as additional CDFW jurisdictional habitat areas.

To assist in the determination of jurisdictional areas on site, data was collected at fourteen data stations. Hydrology, vegetation, and soils were assessed, and data were collected on USACE-approved wetland data forms for the Arid West. All potentially jurisdictional features were evaluated for evidence of an ordinary high-water mark (OHWM), surface water, saturation, wetland vegetation, and nexus to a TNW. The extent of any identified jurisdictional areas was determined by mapping the areas with similar vegetation and topography to the sampled locations. A more detailed description of the methods is described below.The location of data stations and the limits of wetlands were collected in the field using a 250-scale (1 inch = 250 feet) aerial photograph, topographic base, and Trimble GeoXT Global Positioning System (GPS) unit with sub-meter accuracy. The jurisdictional extents were digitized in GIS based on the GPS data and data collected directly into a project-specific GIS using ArcGIS software.

3.3 Survey Limitations

Weather conditions during the surveys, which were conducted in the fall, spring, and summer, were favorable for the identification of fauna and late-blooming flora. Limitations on the general wildlife surveys are primarily due to season and daytime-only surveys. Many fall and spring migratory birds that may use habitats in the project site and pass through the study area would have been observed. Protocol focused species for special-status plants and wildlife were favorable for blooming flora and breeding wildlife because surveys were conducted in both spring and summer.

Surveys were conducted during the daytime to maximize visibility for the detection of plants and most animals. Birds represent the largest component of the vertebrate fauna, and because most are active in the daytime, diurnal surveys maximize the number of observations of this group. In contrast, daytime surveys usually result in few observations of mammals, reptiles, and amphibians, many of which may be more active at night.

4 Results

This section discusses the results of all previous surveys on the entire study area and documents the existing conditions not only within the project site boundary but also the surrounding 500-foot study area buffer.

4.1 Vegetation Communities and Land Covers

Thirty-five vegetation communities and land covers (including disturbed forms) were mapped in the study area based on general physiognomy and species composition, including 28 native or naturalized vegetation types and 7 non-native land covers. Of the 29 native or naturalized vegetation communities, 7 are considered sensitive by CNPS (CRPR 1-3). The 35 vegetation communities and land cover types are described as follows; their acreages are presented in Table 2; and their spatial distributions are presented on Figures 4-1 through 4-12: Vegetation Communities and Soils.

Table 2. Vegetation Communities and Land Cover Types Within the Study Area

Vegetation Community	Scientific Name	Vegetation Community Code	Project Site (On site) (Acres)	Study Area (Off site) (Acres)
Forest and Woodland Alliances				
Arroyo Willow Association	*Salix lasiolepis*	SALLAS	5.81	0.0
Arroyo Willow/Mulefat Association	*Baccharis salicifolia*	SALLAS / BASCAL	2.60	1.39
Black Willow Association	*Salix gooddingii*	SALGOO	2.51	0.0
Black Willow/Mulefat	*Salix gooddingii/ Baccharis salicifolia*	SALGOO / BACSAL	3.52	6.87
Black Willow Thickets	*Salix gooddingii*	BWT	3.42	0.46
Blue Elderberry/Toyon Association	*Sambucus nigra* sp. *caerulea/Heteromeles arbutifolia*	SAMNIG / HETARB	4.94	0.11
California Sycamore/ Coast Live Oak Association*	*Platanus racemosa/ Quercus agrifolia*	PLARAC / QUEGAR	3.88	0.11
Eucalyptus Groves	*Eucalyptus* sp.	EG	1.47	0.19
Mulefat thickets	*Baccharis salicifolia*	MFT	18.43	5.45
Mulefat/Blue Elderberry	*Baccharis salicifolia/Sambucus nigra* sp. *caerulea*	BACSAL / SAMNIG	29.35	14.86
Mulefat / Menzies's goldenbush / Quailbush Association	*Baccharis salicifolia/Isocoma menziesii/Atriplex lentiformis*	BACSAL / ISOMEN / ATRLEN	7.20	0.0
White Alder / California Sycamore Association*	*Alnus rhombifolia / Platanus racemosa*	ALRHO / PLARAC	0.0	0.68
Subtotal of Forest and Woodland Alliances and Stands			*83.13*	*30.12*

Table 2. Vegetation Communities and Land Cover Types Within the Study Area

Vegetation Community	Scientific Name	Vegetation Community Code	Project Site (On site) (Acres)	Study Area (Off site) (Acres)
Shrubland and Grassland Alliances				
Alkali heath / Salt grass Association	*Frankenia salina* / *Distichlis spicata*	FRASAL / DISSPI	0.12	2.71
American Bulrush Marsh*	*Schoenoplectus americanus*)	ABM	0.64	0.18
Black Mustard / Ripgut Brome Association	*Brassica nigra* / *Bromus diandrus*	BM / RB	1.19	0.98
California brittlebush / California sagebrush / Black Sage / Coyote brush Association	*Encelia californica* / *Artemisia californica* / *Salvia mellifera* / *Baccharis pilularis*	ENCCAL / ARTCAL / SALMEL / BACPIL	12.38	1.31
Cattail Marshes	*Typha*	CM	0.0	0.45
Coyote Brush Scrub	*Baccharis pilularis*	CYS	15.78	0.98
Coyote Brush / California Sagebrush Association	*Baccharis pilularis* / *Artemisia californica*	BACPIL / ARTCAL	1.45	0.05
Ice Plant Mats	*Carpobrotus edulis*	IPM	2.07	0.0
Menzies's Goldenbush Scrub*	*Isocoma menziesii*	MGBS	2.91	14.67
Pickleweed Mats*	*Salicornia*	PM	1.72	0.0
Poison Hemlock / Fennel Patches	*Conium maculatum* / *Foeniculum vulgare*	PH / FP	0.11	1.43
Quailbush Scrub	*Atriplex lentiformis*	QS	1.95	0.34
Saltgrass / Pacific Swampfire Association	*Distichlis spicata* / *Sarcocornia pacifica*	DISSPI / SARPAC	15.35	1.11
Smartweed / Cocklebur Patches	*Persicaria* / *Xanthium strumarium*	S/CP	0.61	0.0
Tarplant fields*	*Centromadia parryi* sp. *australis*	TPF	0.50	0.0
Upland mustards	*Hirschfeldia incana*	UM	21.46	13.09
	Subtotal of Shrubland and Grassland Alliances		*75.33*	*37.30*
Non-Natural Land Covers and Unvegetated Communities				
Fivehook Bassia	*Bassia hyssopifolia*	BASSIA	1.62	0.0
Myoporum / Black Willow	*Myoporum* sp. / *Salix gooddingii*	MP / SALGOO	3.08	0.0
Concrete Channel	—	CC	0.77	1.29
Disturbed Habitat	—	DH	16.05	12.32
Open Water	—	OW	3.23	85.36
Parks and Ornamental Plantings	—	ORN	3.67	31.47
Urban/Developed	—	DEV	2.23	83.13
	Subtotal of Non-Natural Land Covers and Unvegetated Communities		*27.57*	*216.65*
		Total	**192.03**	**280.99**

Note:
* Ranked by CDFW as Sensitive Vegetation Communities (S1-3).

4.1.1 Native or Naturalized Vegetation Communities

Forest and Woodland Alliances

Arroyo Willow Alliance

The arroyo willow (*Salix lasiolepis*) thickets alliance includes arroyo willow as the dominant or co-dominant tree in the canopy. The alliance has an open to continuous tree canopy less than 65 feet (20 meters) in height with an open to intermittent shrub canopy and a variable ground layer (Sawyer et al. 2009). Species associated with the alliance include white alder (*Alnus rhombifolia*), coyote brush (*Baccharis pilularis*), mulefat (*Baccharis salicifolia*), California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), blue elderberry (*Sambucus nigra*), and other willows (Sawyer et al. 2009). Arroyo willow habitat occurs throughout the central and eastern portions of North Talbert and south (Figures 4-4, 4-11 and 4-12). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Arroyo Willow/Mulefat Association

Arroyo willow/mulefat association is an association within the arroyo willow thickets alliance, which consists of arroyo willow and mulefat as co-dominant species in the canopy (Sawyer et al. 2009). Within the study area, this community occurs throughout the southeastern portions of this site and a smaller community on the northeastern area of North Talbert (Figures 4-2 and 4-11). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Black Willow Alliance

The black willow alliance (*Salix gooddingii*) includes black willow (*Salix gooddingii*) as the dominant or co-dominant tree in the canopy. The alliance has an open to continuous tree canopy less than 500 feet (30 meters) in height with an open to continuous shrub canopy, and variable ground layer (Sawyer et al. 2009). Species associated with the alliance include white alder, Fremont cottonwood, blue elderberry, red willow (*Salix laevigata*), arroyo willow, and shining willow (*Salix lucida* ssp. *lasiandra*) (Sawyer et al. 2009). Associated shrubs include coyote brush and mulefat (Sawyer et al. 2009). Black willow habitat occurs on the southeastern portion of South South Talbert(Figure 4-12). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Black Willow/Mulefat Association

Black willow/mulefat (*Salix gooddingii/Baccharis salicifolia*) association is an association found within the black willow alliance, which consists of black willow and mulefat as co-dominant species within the canopy (Sawyer et al. 2009). Black willow/mulefat habitat occurs on the northwestern and southern portions of South South Talbert(Figure 4-9, 4-11, and 4-12). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Black Willow Thickets

Black willow thickets consist of stands of black willows that are dominant in the tall shrub canopy rather than the tree canopy. Black willow thickets with scattered stands of red and arroyo willows occur south of Victoria Pond on South South Talbert(Figure 7-9). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Blue Elderberry-Toyon Association

The blue elderberry-toyon (*Sambucus nigra-Heteromeles arbutifolia*) association is an association within the blue elderberry alliance that has blue elderberry and toyon (*Heteromeles arbutifolia*) as the co-dominant species (Sawyer et al. 2009). The alliance has a continuous shrub canopy that is less than 26 feet (8 meters) in height. The herbaceous layer is variable and usually grassy. Other species that may occur in this community include: California sagebrush (*Artemisia californica*), coyote brush, mulefat, bigpod ceanothus (*Ceanothus megacarpus*), bush monkeyflower (*Diplacus aurantiacus*), lemonade berry (*Rhus integrifolia*), and arroyo willow. Emergent trees may be present at low cover, including Southern California black walnut (*Juglans californica*), Fremont cottonwood, and California coast live oak (*Quercus agrifolia*). Blue elderberry-toyon habitat occurs along the northeastern boundary of North Talbert (Figures 4-4 and 4-6). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

South TalbertCalifornia Sycamore-Coast Live Oak Association

The California sycamore-coast live oak is an association within the California sycamore alliance. It is characterized as having California sycamore and coast live oak as co-dominant species in the tree canopy (Sawyer et al. 2009). Other associated species are Southern California black walnut, Fremont cottonwood, Valley oak (*Quercus lobata*), narrow-leaved willow, black willow, red willow, arroyo willow, Peruvian peppertree (*Schinus molle*) and California bay (*Umbellularia californica*). California sycamore-coast live oak woodland occurs within the northeastern corner of North Talbert (Figure 4-4). This native vegetation community is ranked sensitive (S3) by CDFW, may provide suitable habitat for special-status species, and is often regulated as a jurisdictional aquatic resource.

Eucalyptus Groves Alliance

The eucalyptus grove alliance is a semi-natural community which includes *Eucalyptus* spp. as the dominant species in the tree canopy. It has a tree canopy of less than 200 feet and is open to continuous (Sawyer et al. 2009). The shrub layer and herbaceous layer is sparse to intermittent. Eucalyptus groves occurs along the southern boundary of North Talbert (Figure 4-7 and 4-8). This vegetation community is not considered sensitive by CDFW.

Mulefat Thickets Alliance

The mulefat (*Baccharis salicifolia* thickets alliance thickets alliance) includes mulefat as the dominant or co-dominant shrub. The community has a continuous shrub canopy with two tiers at less than 7 feet (2 meters) and less than 15 feet (5 meters) in height, a tree layer that may be present at low cover, and a sparse herbaceous layer (Sawyer et al. 2009). Species associated with the alliance include arroyo willow, narrow-leaved willow, California sagebrush, coyote brush, tree tobacco (*Nicotiana glauca*), and laurel sumac (*Malosma laurina*). Other tree species that may be present include California sycamore, Fremont cottonwood, oaks (*Quercus* sp.), and willows (*Salix* sp.) (Sawyer et al. 2009). Mulefat thickets occurs throughout South South Talbert(Figures 4-9 through 4-12). This

vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Mulefat-Blue Elderberry Association

The mulefat-blue elderberry (*Baccharis salicifolia-Sambucus nigra*) association has mulefat and blue elderberry as the co-dominant species in the shrub canopy (Sawyer et al. 2009). Mulefat-blue elderberry habitat occurs throughout North Talbert (Figures 4-1 through 4-8). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Mulefat-Menzies' Goldenbush-Quailbush Association

The mulefat-Menzies' goldenbush-quailbush association has mulefat, Menzies' goldenbush, and quailbush (*Atriplex lentiformis*) as the co-dominant species in the shrub canopy (Sawyer et al. 2009). Mulefat-Menzies' goldenbush-quailbush scrub was found centralized in North Talbert and surrounded by other communities like mulefat thickets and quailbush scrub (Figures 4-9 through 4-12). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

White Alder-California Sycamore Association

The white alder-California sycamore (*Alnus rhombifolia-Platanus racemosa*) association is an association within the white alder alliance with white alder and California sycamore as the co-dominant species (Sawyer et al. 2009). Other species that may be associated with this community are: big-leaf maple (*Acer macrophyllum*), Port orford cedar (*Chamaecyparis lawsoniana*), Oregon Ash (*Fraxinus latifolia*), tanoak (*Notholithocarpus densiflorus*), California sycamore, Fremont cottonwood, black cottonwood (*Populus trichocarpa*), Douglas-fir (*Pseudotsuga menziesii*), Valley oak, and willows (*Salix* sp.). White alder-California sycamore woodland occurs in one area on the southern portion of North Talbert (Figure 4-9). White alder-California sycamore association is a natural sensitive community ranked 3 by CDFW, may provide suitable habitat for special-status species, and is often regulated as a jurisdictional aquatic resource.

Shrubland and Grassland Alliances

Alkali Heath/Salt Grass Association

The alkali heath/salt grass association (*Frankenia salina/Distichlis spicata* association) includes alkali heath and salt grass as the dominant or co-dominant in the herbaceous and subshrub layer. The community has an open to continuous cover less than 25 inches (60 centimeters) in height (Sawyer et al. 2009). This community occurs in coastal salt marshes and alkali meadows. Species associated with the association include *Atriplex* sp., *Batis* sp., and *Suaeda* sp. Within the study area, this community occurs along the western boundary of South South Talbert. Alkali health/salt grass occurs around in mesic areas on the southwestern portion of the project site (Figure 4-11). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

American Bulrush Marsh Alliance

The American bulrush marsh alliance (*Schoenoplectus americanus* herbaceous alliance) includes American bulrush as the dominant or co-dominant herb in the herbaceous layer. The community has an intermittent to continuous cover less than 13 feet (4 meters) in height (Sawyer et al. 2009). Species associated with the alliance include yerba mansa (*Anemopsis californica*), salt grass, common reed (*Phragmites australis*), hardstem bulrush (*Schoenoplectus acutus*), California bulrush (*Schoenoplectus californicus*), and cattail (*Typha* sp.) (Sawyer et al. 2009). Within the study area, this community occurs in one area within the western portion of South South Talbert. American bulrush marsh habitat occurs immediately south of Victoria Pond, in South South Talbert(Figure 4-9). The American bulrush marsh alliance is a natural vegetation community with a sensitivity raking of 3 by CDFW, may provide suitable habitat for special-status species, and is often regulated as a jurisdictional aquatic resource.

Black Mustard-Ripgut Brome

This nonnative vegetation community consists of black mustard (*Brassica nigra*) and ripgut brome (*Bromus diandrus*) as the co-dominant species in the herbaceous layer. Its cover is open to continuous with herbs less than 10 feet (3 meters) in height. Other species that can be found with this alliance include field mustard (*Brassica rapa*), artichoke thistle (*Cynara cardunculus*), carnation spurge (*Euphorbia terracina*), shortpod mustard (*Hirschfeldia incana*), woad (*Isatis tinctoria*), wild radish (*Raphanus sativus*), false brome (*Brachypodium distachyon*), ripgut brome and/or soft brome (*Bromus hordeaceus*) (Sawyer at al. 2009). Black mustard-ripgut brome occurs along the northern boundary of North Talbert (Figures 4-1 and 4-2). This vegetation community is not considered sensitive by CDFW.

California Brittle Bush-California Sagebrush-Black Sage-Coyote Brush Association

California brittle bush-California sagebrush-black sage-coyote (*Encelia californica-Artemisia californica-Salvia mellifera-Baccharis salicifolia*) brush is an association within the California brittle bush alliance (Sawyer et al. 2009). California brittlebush-California sagebrush-black sage-coyote brush habitat community occurs along the western boundary of North Talbert (Figures 4-1, 4-3, 4-5, 4-6, 4-7). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species.

Cattail Marshes Alliance

The cattail marshes alliance (*Typha [angustifolia, domingensis, latifolia]* herbaceous alliance) includes cattails as dominant or co-dominant in the herbaceous layer that is less than 5 feet (1.5 meters). The alliance has an intermittent to continuous cover and consists of a low cover of emergent trees (Sawyer et al. 2009). Cattail marshes occurs on semi-permanently flooded freshwater or brackish marshes. Some species associated with the alliance includes *Schoenoplectus* sp., *Juncus* sp., *Distichlis* sp., and *Salix* sp. Cattail marsh habitat occurs in one area on the northern boundary of North Talbert (Figure 4-2). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Coyote Brush Scrub Alliance

The coyote brush bush scrub alliance (*Baccharis pilularis* scrub alliance) includes coyote brush as dominant or co-dominant in the canopy. The alliance has a variable canopy less than 3 feet (1 meter) in height with variable herbaceous layer (Sawyer et al. 2009). Some species associated with the alliance include California sagebrush,

California buckwheat (*Eriogonum fasciculatum*), common deerweed (*Acmispon glaber* var. *glaber*), white sage (*Salvia apiana*), and purple sage (*Saliva leucophylla*) (Sawyer et al. 2009). Coyote brush scrub occurs throughout North Talbert (Figures 4-2 through 4-8). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species.

Coyote Brush-California Sagebrush Association

Coyote brush-California sagebrush association is an association within the coyote brush alliance (Sawyer et al. 2009). Coyote brush and California sagebrush are co-dominant in the shrub layer of this community, scattered with other coastal scrub species. Coyote brush-California sagebrush scrub habitat occurs within the northwestern corner of North Talbert (Figure 4-1). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species.

Ice Plant Mats

Ice plant mats alliance (*Carpobrotus* sp. alliance) is a semi-natural alliance that is characterized by areas dominated or co-dominated by sea fig (*Carpobrotus chilensis*), hottentot fig (*Carpobrotus edulis*), common iceplant (*Mesembryanthemum crystallinum*) or other ice plant taxa. This community is intermittent to continuous cover in the herb layer with less 20 inches (50 centimeters) in height (Sawyer et al. 2009). Emergent trees and shrubs may be present at low cover. Ice plant mats occur within the southern portion of North Talbert, and the northern portion of South Talbert (Figure 4-5 through 4-8). This vegetation community is not considered sensitive by CDFW.

Menzies's Goldenbush Scrub Alliance

The Menzies's goldenbush scrub alliance (*Isocoma menziesii* scrub alliance) includes Menzies's golden bush as dominant or co-dominant in the canopy. The alliance has an open to intermittent shrub canopy less than 3 feet (1 meter) in height with an open to continuous herbaceous layer (Sawyer et al. 2009). Some species associated with the alliance include California saltbush (*Atriplex californica*), desertbroom (*Baccharis sarothroides*), San Joaquin snakeweed (*Gutierrezia californica*), and Virginia glasswort (*Salicornia depressa*) (Sawyer et al. 2009). Menzies' goldenbush scrub occurs throughout South Talbert (Figure 4-9 through 4-12). Menzies's goldenbush scrub is a native vegetation community ranked sensitive (S3) by CDFW.

Pickleweed Mats Alliance

The pickleweed mats alliance (*Salicornia pacifica* herbaceous alliance) includes pickleweed as the dominant or co-dominant herb in the subshrub or herbaceous layer. The community has an intermittent to continuous cover less than 5 feet in height (Sawyer et al. 2009). Species associated with the alliance include salt bulrush (*Bolboschoenus maritimus*), Veatch's dodder (*Cuscuta nevadensis*), salt grass, alkali heath, gum plant (*Grindelia stricta*), marsh jaumea (*Jaumea carnosa*), smartweed (*Persicaria lapathifolia*), and estuary seablite (*Suaeda esteroa*) (Sawyer et al. 2009). Pickleweed mats are found in the southern portion of South Talbert (Figure 4-11 through 4-12). Pickleweed mats are a native vegetation community ranked sensitive (S3) by CDFW, may provide suitable habitat for special-status species, and is often regulated as a jurisdictional aquatic resource.

Poison Hemlock or Fennel Patches Alliance

Poison hemlock or fennel patches (*Conium maculatum* or *Foeniculum vulgare* semi-natural alliance) are characterized by areas dominated or co-dominated by poison hemlock or fennel, or another non-native invasive

plant of the *Apiaceae* family in the herbaceous layer. The semi-natural community has an open to continuous cover less than 7 feet (2 meters) in height. Emergent trees and shrubs may be present at low covers, including oak (*Quercus* sp.) or coyote bush (Sawyer et al. 2009). Poison hemlock or fennel patches in one area on the southwestern corner of South Talbert (Figure 4-11). This vegetation community is not considered sensitive by CDFW.

Quailbush Scrub Alliance

The quailbush scrub alliance (*Atriplex lentiformis* scrub alliance) includes quailbush as dominant shrub in the canopy. The alliance has an open to intermittent shrub canopy less than 16 feet in height with variable herbaceous layer (Sawyer et al. 2009). Some species associated with the alliance include California sagebrush, fourwing saltbush (*Atriplex canescens*), coyote brush, California brittle bush, laurel sumac, arrow weed (*Pluchea sericea*), alkali sacaton (*Sporobolus airoides*), and woolly seablite (*Suaeda taxifolia*) (Sawyer et al. 2009). Quailbush scrub habitat occurs along the southern boundary of the north Talbert region, and within the central portion of South Talbert (Figure 4-11). This vegetation community is not considered sensitive by CDFW.

Salt Grass-Pacific Swampfire Association

Salt grass-Pacific swampfire association (*Distichlis spicata-Sarcocornia pacifica*), is an association within the salt grass alliance, which consists of salt grass and Pacific swampfire as co-dominant species in the subshrub and herbaceous layer (Sawyer et al. 2009). Salt grass-Pacific swampfire habitat occurs in South Talbert on a relatively large portion of the project site's southwestern area (Figures 4-9, 4-11 and 4-12). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Smartweed-Cocklebur Patches Alliance

The smartweed-cocklebur patches (*Polygonum lapathifolium* and/or *Xanthium strumarium*) alliance includes smartweed and cocklebur as dominant or co-dominant in the herbaceous layer with devil's beggartick (*Bidens frondosa*), fiveangled dodder (*Cuscuta campestris*), *Echinochloa* sp., pale spike rush (*Eleocharis macrostachya*), and *Polygonum* sp. (Sawyer et al. 2009). Smartweed-cocklebur patches occur in one area within the southeastern corner of South Talbert (Figure 4-12). This vegetation community is not considered sensitive by CDFW.

Tar Plant Field Alliance

The tar plant fields alliance (*Centromadia* sp.) includes *Centromadia* sp. as the dominant or co-dominant in the herbaceous layer. Other common species associated with this alliance includes: *Atriplex* sp., *Bromus* sp., redstem stork's bill (*Erodium cicutarium*), alkali heath, shortpod mustard, mouse barley (*Hordeum murinum*), *Lasthenia* sp., and *Trifolium* sp. (Sawyer et al. 2009). Emergent shrubs may be present at low cover, including bush seepweed (*Suaeda nigra*). Tar plant fields occur within the southeastern portion of South Talbert (Figure 4-11). Tar plant fields are a native vegetation community ranked sensitive (S2) by CDFW.

Upland Mustards

This community is a naturalized vegetation type that has an herbaceous layer dominated by black mustard, shortpod mustard, or other mustards with an open to continuous canopy less than 10 feet (3 meters) in height (Sawyer et al. 2009). Upland mustards typically occur in recently disturbed areas such as fallow fields, grasslands,

and roadsides (Sawyer et al. 2009). Upland mustards occur throughout the central portion of North Talbert (Figure 4-3 through 4-8). This vegetation community is not considered sensitive by CDFW.

4.1.2 Non-Natural Land Covers and Unvegetated Communities

Fivehook Bassia

This non-native community is naturalized in California with fivehook bassia (*Bassia hyssopifolia*) as the dominant or co-dominant species (Sawyer et al. 2009). Fivehook bassia tends to occur in disturbed habitat in either wetland or non-wetland communities. Fivehook bassia is centralized in South Talbert, directly adjacent to the disturbed habitat and mulefat thicket communities (Figure 4-10). This vegetation community is not considered sensitive by CDFW.

Concrete Channel

Concrete channel refers to a non-native land cover that consists of open sections of engineered concrete-lined channel that have been constructed and do not have vegetated present. These channels have a bed and bank that is clearly visible. The concrete channel occurs along the northern project site boundary (Figures 4-1 and 4-2).

Disturbed Habitat

Disturbed habitat typically occurs in areas where soils have been recently or repeatedly disturbed by grading or compaction, resulting in the growth of very few native perennials. It is usually dominated by bare ground or non-native dicotyledonous species including redstem stork's bill, black mustard, thistles (e.g., artichoke thistle, Italian plumeless thistle [*Carduus pycnocephalus*], and Maltese star-thistle [*Centaurea melitensis*]), dove weed (*Croton setigerus*), and others. Disturbed land includes the dirt paths that are present throughout North Talbert and south (Figures 4-1 through 4-12).

Myoporum/Black Willow Association

Myoporum/black willow (*Myoporum/Salix gooddingii*) association is an association found within the black willow alliance, which consists of Myoporum and black willow as co-dominant species within the canopy (Sawyer et al. 2009). Myoporum/black willow habitat occurs within the central portion of South Talbert (Figure 4-9). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Open Water

This mapping unit is not recognized by the CNPS's Manual of California Vegetation (Sawyer et al. 2009); however, is included within Gray & Bramlet (1992). According to Gray & Bramlet (1992), open water is comprised of year-round bodies of fresh water (extremely low salinity) in the form of reservoirs/lakes, basins, streams, ponds, or rivers. Open water areas are aquatic areas that generally lack emergent vegetation, but typically support hydrophytic vegetation around their margins (e.g., mulefat scrub, southern willow scrub, freshwater marsh, or herbaceous wetland). Open water occurs in the northeastern corner of the north Talbert region, in the northwestern portion of South Talbert within Victoria Lake, and along the western boundary of the study area within the Santa Ana River (Figures 4-1 through 4-12). Open water is a non-vegetated land cover type and therefore is not considered a vegetation community and is therefore not ranked as sensitive, but may provide suitable habitat for special-status species (e.g., foraging) and is often regulated as a jurisdictional aquatic resource.

Parks and Ornamental Plantings

This mapping unit is not recognized by the CNPS's Manual of California Vegetation (Sawyer et al. 2009); however, is included within disturbed land (11300) in Oberbauer et al. (2008). Ornamental plantings refer to areas where non-native ornamentals and landscaping have been installed. Ornamental plantings occur in the northeastern portion of the study area. These plantings are generally associated with landscaping for the park. Parks and ornamental plantings occurs within the central portion of North Talbert, along the northern boundary of South Talbert, and along the eastern portion of the study area (Figures 4-4 through 4-8).

4.1.3 Waters of the U.S.

Potentially jurisdictional waters of the U.S. that may be subject to USACE jurisdiction includes features on the project site that exhibit connectivity to a TNW and display an OHWM, such as three wetland features, including the historic Placentia Drain, and ten non-wetland features, including the channelized Fairview Channel and Banning Channel (Figures 5 and 8).

Non-wetland waters mapped on the project site consists of ephemeral drainages including a concrete lined channel with no associated riparian habitat, and an unnamed drainage. On-site areas of non-wetland waters include the perennial pond in South Talbert (Victoria Lake), and three intermittent streams: historic Placentia Drain, Banning Channel (a RPW), and Fairview Channel.

Wetland waters account for approximately 19.92 acres of the project site mapped within Wetland 1 and Wetland 2 in South Talbert (Figure 5). Additionally, due to the project site's boundary, many of the wetland features located on site, also occur within the study area and continue outside of the buffer.

Off-site jurisdictional areas within the study area buffer also include the Santa Ana River, a perennial stream and TNW that was mapped as open water due to the lack of associated riparian habitat. In addition, two perennial ponds, and overflow pond and Pond E, are associated with the Fairview Regional Park wetland restoration project, which connects a water quality pond to the Placentia Drain.

Each feature is described in further detail in the *Aquatic Resources Delineation Report* included in Appendix F.

4.1.4 Waters of the State

The features described as subject to USACE's jurisdiction as Waters of the U.S. also potentially fall under the authority of the Santa Ana RWQCB in accordance with Section 401 of the Clean Water Act (CWA) and the Porter-Colone Act. Therefore, a total of approximately 18.77 acres of wetland waters, and a total of approximately 109.4 acres of non-wetland waters delineated within the project site would be subject to RWQCB jurisdiction (Figures 5 and 8).

Table 3. Summary of USACE/RWQCB Aquatic Resources in the Study Area

Feature Name (Feature Type)	Cowardin	Dominant Vegetation (Wetlands) OHWM Indicators (Non-Wetland Waters)	Location (Latitude/Longitude)	Acreage/ Linear Feet
USACE/RWQCB Jurisdictional Aquatic Resources				
Wetlands				
Placentia Drain (Intermittent Stream)	PEM1A	Mulefat-Blue Elderberry	33.6600330678075, -117.94382039280	0.15/250
Wetland 1 (Wetland)	PEM1Cx PFOCx	American Bulrush Marsh Black Willow Thickets	33.648011651062, -117.95012974659	3.26/281
Wetland 2 (Wetland)	PEM1Ah	Mulefat Thickets Salt grass-Pacific Swampfire	33.644710645791, -117.95017748930	15.36/1,066
			UCACE Wetlands Subtotal	*18.77/1,597*
Non-Wetland Waters ("Other Waters" on Figures)				
Santa Ana River (Perennial Stream)	R1USQx E1UBL E2USNx	Open Water Break in Bank Slope	33.656471504387, -117.94958461991	69.17/9,830
Banning Channel (Intermittent Stream)	R2UBHr	Open Water Break in Bank Slope	33.658214030204, -117.94825053704	15.19/8,634
Fairview Channel (Intermittent Stream)	R2UBFr	Open Water Concrete Channel Bank in Bank Slope	33.667628618322, -117.94515478237	0.78/343
Pond E (Perennial Pond)	None	Cattail Marsh Open Water Change in Vegetation Cover Break in Bank Slope	33.665659746548, -117.94200684660	0.63/290
FP Channel (Perennial Stream)	None	Open Water Break in Bank Slope	33.665659746548, -117.94200684660	0.26/455
Overflow Pond (Perennial Pond)	PEM1A	Open Water Change in Vegetation Species Change in Vegetation Cover Break in Bank Slope	33.664888418003, -117.94282619843	0.19/234
Placentia Drain (Intermittent Stream)	PEM1A	Open Water Blue Elderberry-Toyon Mulefat-Blue Elderberry Upland Mustards Change in Vegetation Species Change in Vegetation Cover Break in Bank Slope	33.659809246249, -117.94387549326	0.61/1,563

Table 3. Summary of USACE/RWQCB Aquatic Resources in the Study Area

Feature Name (Feature Type)	Cowardin	Dominant Vegetation (Wetlands) OHWM Indicators (Non-Wetland Waters)	Location (Latitude/Longitude)	Acreage/ Linear Feet
Victoria Pond (Perennial Pond)	PUBHx	Open Water Change in Average Sediment Texture Change in Vegetation Species Change in Vegetation Cover Break in Bank Slope	33.649062979378, -117.95017874462	3.35/668
Unnamed Drainage (Ephemeral Drainage)	PSSAx	Myoporum/Black Willow Arroyo Willow Disturbed Habitat Mulefat Thickets Urban/Developed Change in Vegetation Cover Break in Bank Slope	33.647200760658, -117.94533539148	0.15/1,413
Concrete-Lined Channel (Ephemeral Drainage)	R4SBAr	Urban/Developed Change in Vegetation Cover Break in Bank Slope	33.68488215190, -116.90497125900	0.30/4,374
			USACE/RWQCB Waters Total	*90.63/27,804*
			USACE Grand Total	**109.4/29,401***

Note:
* Acreage may not sum due to rounding

4.1.5 CDFW and CCC Jurisdictional Features

CDFW jurisdiction extends over all areas under USACE and RWQCB jurisdiction as discussed above, as well as additional areas that meet USACE wetland (i.e., hydrophytic) vegetation criteria but lack wetlands hydrology and/or hydric soils indicators. It is also assumed for the purpose of this report that CDFW-jurisdictional areas are also under the jurisdiction of the CCC, and have been delineated using the same methodology. CDFW and CCC jurisdiction includes riparian and marsh habitats throughout the site, extending out to the canopy cover.

Areas under CDFW and CCC jurisdiction mapped on the project site include a total of 5 wetland features that encompass all wetland and non-wetland waters of the U.S./State, including the top of channel banks and associated riparian habitats (Figures 6 and 9). Additionally, areas that contained one or two wetland parameters, but did not contain all three to pass the three-parameter test for a federally-protected wetland, are also considered under CDFW/CCC jurisdiction. The jurisdictional delineation determined that a total of approximately 141.27 acres of CDFW/CCC jurisdiction occurs on the study area. Within the project site, the five wetland features consist of a forested wetland, freshwater pond, riparian streambed, salt marsh, and unvegetated streambed, for a total of 32.87 acres of CDFW/CCC wetlands (Figure 6). The extent of CDFW/CCC jurisdiction for each feature on the study area determined to meet the CDFW/CCC definition of waters are summarized in Table 4 below.

The largest areas mapped within the project site that would be subject to CDFW/CCC jurisdiction include the forested wetland (approximately 14.14 acres) and the salt marsh (approximately 14.46 acres). The largest feature

mapped within the study area buffer that would be subject to CDFW/CCC jurisdiction include the unvegetated streambed associated with Banning Channel, Fairview Channel and Santa Ana River (approximately 85.63 acres).

Table 4. CDFW-CCC Jurisdiction Summary

Feature Name	Habitat Type/Waters Type	On-Site Acreage	Off-Site Acreage	Total
Santa Ana River	Open Water Unvegetated Streambed	0.0	69.17	69.17
Banning Channel	Open Water Unvegetated Streambed	0.41	14.78	15.19
Fairview Channel	Concrete Channel Unvegetated Streambed	0.77	1.39	2.16
Pond E	Cattail Marsh/Open Water Emergent Wetland (Lacustrine)	0.0	1.71	1.71
FP Channel	Open Water Riparian Streambed	0.0	0.24	0.24
Overflow Pond	Open Water Freshwater Pond	0.0	0.19	0.19
Placentia Drain	Mulefat/Blue Elderberry Riparian Streambed	0.08	0.68	0.76
Victoria Pond	Open Water Freshwater Pond	2.82	0.53	3.35
Wetland 1	American Bulrush/Black Willow Thickets Forested Wetland (Palustrine)	2.89	0.37	3.26
Unnamed Drainage	Arroyo willow Riparian Streambed	0.15	0.0	0.15
Concrete-Lined Channel	Concrete Channel Unvegetated Streambed	0.05	0.0	0.05
Wetland 2	Saltgrass-Pacific Swampfire Salt Marsh (Palustrine)	14.15	1.10	15.25
Wetland 3	Mulefat Thickets Emergent Wetland (Palustrine)	0.0	1.10	1.10
Wetland 4	Black Willow/Mulefat Salt Marsh (Palustrine)	0.30	17.19	17.49
Wetland 5	Mulefat Thickets Black Willow Forested Wetland (Palustrine)	7.65	0.0	7.65
Wetland 6	Black Willow Forested Wetland (Palustrine)	2.75	0.03	2.78
	CDFW-CCC Total*	**32.02**	**109.04**	**141.39**

Note: *Acreage may not total due to rounding.

4.1.6 Jurisdictional Waters Conclusion

The project site supports thirteen features that are considered waters of the U.S. and state, and an additional four features that are also under the jurisdiction of CDFW and the CCC. Table 5 below summaries the extent of each

regulatory agency's jurisdiction within the project site and 500-foot study area buffer for each type of waters/wetlands.

Table 5. Jurisdictional Delineation Summary

Jurisdiction	Wetlands Vegetation Communities/Water Types	Project Site (On site) Acres	Survey Area (Off site) Acres	Total Acres
Jurisdictional Waters of the U.S. and State				
USACE / RWQCB	**Non-Wetland Waters**			
	Ephemeral Drainage	0.20	0.25	0.45
	Intermittent Stream	1.26	15.47	16.52
	Perennial Pond	2.82	1.35	4.17
	Perennial Stream	—	69.47	69.47
	Non-Wetland Waters Subtotal	*4.22*	*86.54*	*90.76*
	Wetland Waters			
	Intermittent Stream	0.15	0.001	0.151
	Perennial Pond	2.82	0.53	3.35
	Wetland	17.02	4.34	21.36
	Wetland Waters Subtotal	*19.99*	*4.87*	*18.77*
	USACE/RWQCB Waters Total*	**24.19**	**91.25**	**115.44**
CDFW and CCC Jurisdictional Waters				
CDFW / CCC Wetlands / Riparian Habitat	**Wetland Waters**			
	Lacustrine Emergent Wetland	—	1.71	1.71
	Palustrine Emergent (Forested Wetland and Salt Marsh)	28.1	18.96	47.04
	Streambed – Riparian	0.23	0.92	1.15
	Wetland Waters Subtotal	*28.33*	*22.42*	*49.9*
	Non-Wetland Waters			
	Unvegetated Streambed	1.23	85.63	86.86
	Freshwater Pond	2.82	0.72	3.54
	Non-Wetland Waters Subtotal	*4.05*	*86.31*	*90.36*
	CDFW/CCC Jurisdiction Total*	**32.38**	**109.03**	**140.26**

Note:
* Acreage may not total due to rounding.

4.2 Floral Diversity

A total of 193 species of vascular plants, including 95 native or naturalized species (49%) and 98 non-native species (51%) were recorded on the project site during the rare plant surveys conducted in 2020 and 2025. The cumulative list of plant species observed is provided in Appendix A: Plant Compendium.

4.3 Wildlife Diversity

A total of 104 wildlife species, including 96 native (92%) and 8 non-native (8%) species, were observed on the project site during various biological surveys spaced between 2019 and 2025. Specifically, 87 birds, 6 mammals, 4 reptiles, 1 amphibian, and 6 invertebrates were detected. The cumulative list of wildlife species observed is provided in Appendix B: Wildlife Compendium.

Reptiles and Amphibians

Three common reptiles, western fence lizard (*Sceloporus occidentalis*), common side-blotched lizard (*Uta stansburiana*), southern alligator lizard (*Elgaria multicarinata*), and the non-native red-eared slider (*Trachemys scripta*), was detected. One non-native amphibian was detected: American bullfrog (*Lithobates catesbeianus*). No special-status amphibians or reptiles were detected.

Birds

A total of 87 bird species were observed during the various biological surveys, which consisted of focused surveys for multiple special-status birds including burrowing owl, coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher. Of the 87 bird species detected, a total of 15 are special-status. The following special-status bird species were observed on the project site (Appendix B): least Bell's vireo (*Vireo bellii pusillus*), Cooper's hawk (*Accipiter cooperii*), prairie falcon (*Falco mexicanus*), white-tailed kite (*Elanus leucurus*), California gull (*Larus californicus*), prairie falcon (*Falco mexicanus*), osprey (*Pandion haliaetus*), double-crested cormorant (*Nannopterum auritum*), white-faced ibis (*Plegadis chihi*), coastal California gnatcatcher (*Polioptila californica californica*), Costa's hummingbird (*Calypte costae*), rufous hummingbird (*Selasphorus rufus*), yellow-breasted chat (*Icteria virens*), and yellow warbler (*Setophaga petechia*). In addition, burrowing owl (*Athene cunicularia*) was previously observed within the 500-foot study area buffer, immediately outside of the project site footprint in 2020, but has not been observe since during subsequent focused surveys.

Mammals

Evidence of six mammal species, California ground squirrel (*Otospermophilus) beecheyi*), coyote (*Canis latrans*), brush rabbit (*Sylvilagus bachmani*), desert cottontail (*Silvilagus audubonii*), Botta's pocket gopher (*Thomomys bottae*), and Virginia opossum (*Didelphis virginiana*) were noted during the surveys. No special-status wildlife were detected on the project site.

Invertebrates

A total of six species of butterflies were noted during the biological surveys on the project site: monarch (*Danaus plexippus),* mourning cloak (*Nymphalis antiopa*), pale swallowtail (*Papillio eurymedon*), western tiger swallowtail (*Papillio rutulus*), cabbage white (*Pieris rapae*), and checkered white (*Pontia protodice*). Numerous other insects and other invertebrates are expected to occur in the study area. Note that overwintering colonies of the Pacific population of monarch butterflies are Candidate Endangered species under CESA. No overwintering colonies were detected on the project site.

4.4 Special-Status Plants and Wildlife

Endangered, rare, or threatened species, as defined in CEQA Guideline 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status species" in this report and include (1) endangered or threatened species recognized in the context of the California Endangered Species Act (CESA) and the federal Endangered Species Act (FESA); (2) plant species with a CRPR (CDFG 2012; CNPS 2012) (lists 1 through 4); (3) California Species of Special Concern (SSC) and Watch List (WL) species, as designated by the CDFW (CDFG 2011); (4) mammals and birds that are Fully Protected (FP) species, as described in Fish and Game Code, Sections 4700 and 3511; (5) Birds of Conservation Concern (BCC), as designated by the USFWS (2021); and (6) plant and wildlife species that are "covered" under the Central–Coastal Subregion NCCP/HCP (County of Orange 1996).

4.4.1 Special-Status Plant Species

Special-status plant surveys were conducted to determine the presence or absence of plant species that are considered endangered, rare, or threatened under CEQA Guideline 15380 (14 CCR 15000 et seq.). Special-status plants were identified in the project site during focused rare plant surveys conducted in 2020 and 2025. A list of all special-status plant species known to occur in the vicinity of the study area (the Newport USGS 24k quadrangle map and surrounding six topographic quadrangles) and plant species covered under the Central–Coastal Subregion NCCP/HCP, with their habitat requirements, potential to occur in the study area, and survey observations, is provided in Appendix C: Special-Status Plant Species with a Potential to Occur on the Study Area. This appendix provides evaluations for each of these special-status species' potential to occur in the study area based on known range, habitat associations, preferred soil substrate, life form, elevation, and blooming period.

Special-status plant species that were observed or have at least moderate to high potential to occur in the study area are discussed in further detail below, within the focused rare plant survey results. Appendix C includes special-status plant species that have low potential or are not expected to occur in the study area; therefore, these species are not further analyzed in this report because no direct, indirect, or cumulative impacts are expected based on the negative surveys and evaluation that these species do not have a moderate or high potential to occur in the study area.

Results of Focused Rare Plant Surveys

A total of 193 species of native or naturalized plants, 95 native (49%) and 98 non-native (51%) were identified during the spring and summer focused rare plant surveys conducted on the project site in 2020 and 2025. No federal or state-listed plant species were identified during the focused rare plant surveys. However, 8 plant species with a California Rare Plant Rank (CRPR 1 through 4) by California Native Plant Society (CNPS) and CDFW were observed on the study area: Lewis's evening primrose (*Camissoniopsis lewisii*; CRPR 3), southern tarplant (*Centromadia parryi* ssp. *australis*; CRPR 1.B.1), decumbent goldenbush (*Isocoma menziesii* var. *decumbens*; CRPR 1B.2), San Diego marsh-elder (*Iva hayesiana*; CRPR 2B.2), mud nama (*Nama stenocarpa*; CRPR 2B.2), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*; CRPR 4.2); Coulter's matilija poppy (*Romneya coulteri*; CRPR 4.2, fully covered under OC NCCP/HCP), and Southern California black walnut (*Juglans californica*, CRPR 4.2). Plants ranked 1 through 3 by CRPR are considered sensitive by CDFW; as such, southwestern spiny rush, southern California black walnut, and Coulter's Matilija poppy are not considered sensitive by CDFW. The CRPR Rank 1-3 special-status plant species are described in further detail herein; locations of the special-status plants observed on site are depicted on Figure 10: Sensitive Biological Resources.

Lewis's evening primrose (*Camissoniopsis lewisii*)

Lewis's evening primrose is ranked as sensitive and vulnerable to extirpation in California (CRPR 3). This annual herb is native to California and occurs in coastal bluff scrub, coastal dunes and scrub, cismontane woodland, and valley and foothill grassland habitats. It is found from sea level to 985 feet AMSL and blooms from March through early June. Lewis's evening primrose was observed within various vegetation communities, both native and non-native, on the center of the project site (Figure 10: Sensitive Biological Resources).

Southern tarplant (*Centromadia parryi* ssp. *australis*)

Southern tarplant is seriously rare, endangered, or threatened in California and elsewhere (CRPR 1B.1). This annual herb occurs in marshes and swamps, valley and foothill grassland, and vernal pools from sea level to 1,575 feet above mean sea level (AMSL) and blooms between May and November (CNPS 2022). Southern tarplant individuals were observed within various vegetation communities throughout the southern, central, and northwestern portions of the project site (Figure 10).

Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)

Decumbent goldenbush is moderately rare, threatened, or endangered in California and elsewhere (CRPR 1B.2). This perennial shrub occurs within chaparral and coastal scrub (often disturbed and sandy areas) at elevations from 35 feet to 820 feet AMSL, and blooms from April to November. Decumbent goldenbush individuals were observed within various vegetation communities on the southwestern portion of the project site (Figure 10).

San Diego Marsh-Elder (*Iva hayesiana*)

San Diego marsh-elder is moderately rare, endangered, or threatened in California but common elsewhere (CRPR 2B.2). This perennial herb grows in marshes and swamps as well as playas. It blooms from April through October and occurs at elevations ranging between 35 to 1,640 feet AMSL (CNPS 2022). San Diego marsh-elder was observed within quailscrub and coyote bush-California sagebrush scrub in the center and northwestern portions of the project site (Figure 10). San Diego marsh elder was also observed within the study area buffer.

Mud Nama (*Nama stenocarpa*)

Mud nama is moderately rare, endangered, or threatened in California but common elsewhere (CRPR 2B.2). It grows in marshes and swamps as well as along lake margins and riverbanks, blooming from January to July at elevations ranging between 15 to 1,640 feet AMSL (CNPS 2022). Mud nama was observed along a trail by ponded water, within a stand of horseweed (*Erigeron canadensis*), on the northeastern portion of the project site (Figure 10).

Coulter's Matilija Poppy (*Romneya coulteri)*

Coulter's matilija poppy is moderately uncommon in California and monitored due to its limited distribution (CRPR 4.2). This perennial rhizomatous herb grows in chaparral and coastal scrub habitats, often in burned areas. It blooms from March through August at elevations ranging from 65 to 3,935 feet AMSL. This species is covered under the Central/Coastal Subarea of OC NCCP/HCP. Coulter's matilija poppy was observed planted on either side of a trail on the northern portion of the project site (Figure 10).

Southwestern Spiny Rush (*Juncus acutus* ssp. *leopoldii*)

Southwestern spiny rush is moderately uncommon in California and monitored due to its limited distribution (CRPR 4.2). This perennial rhizomatous herb grows in coastal dunes, coastal scrub, coastal salt marshes, meadows and alkaline seeps, growing at elevations from 10 feet to 2,955 feet AMSL. Southwestern spiny rush was observed in the southern portion of North Talbert (Figure 10).

Southern California Black Walnut (*Juglans californica*)

Southern California black walnut is CRPR 4.2. This dicot tree is endemic to California and occurs in southern oak woodland and wetland-riparian habitats from 160 to 2,955 feet AMSL and blooms between March and August (CNPS 2022). Southern California black walnut was observed in mulefat thickets in the southeastern portion of the project site (Figure 10).

4.4.2 Special-Status Wildlife Species

Special-status wildlife species are defined as follows:

- Have been designated as either rare, threatened, or endangered by CDFW or the USFWS and are protected under either CESA (California Fish and Game Code, Section 2050 et seq.) or FESA (16 U.S.C. 1531 et seq.); or meet the CEQA definition for endangered, rare, or threatened (14 CCR 15380(b),(d));
- Are candidate species being considered or proposed for listing under these same acts;
- Are fully protected by the California Fish and Game Code Sections 3511, 4700, 5050, or 5515;
- Are of expressed concern to resource/regulatory agencies or local jurisdictions. This includes those wildlife that are considered a state SSC; are on CDFW WL; are designated as a federal BCC; or are considered a state Special Animal; or
- Are listed as Covered Species in the Central–Coastal Subregion NCCP/HCP (County of Orange 1996).

A list of all special-status wildlife species known to occur on or within the vicinity of the study area (the surrounding six topographic quadrangles) and wildlife species covered under the Central–Coastal Subregion NCCP/HCP, with their habitat requirements, potential to occur in the study area, and survey observations, is provided in Appendix D, Special-Status Wildlife Species with a Potential to Occur on the Study Area. Appendix D includes special-status wildlife species that have low potential or are not expected to occur in the study area; therefore, these species are not further analyzed in this report because no direct or indirect impacts are expected based on evaluation that these species do not have a moderate or high potential to occur in the study area. Special-status wildlife species that were observed or have at least moderate to high potential to occur are discussed in further detail below within the focused species survey results.

Protocol surveys for coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and burrowing owl were conducted in 2020 and again in 2025. In addition, focused surveys for Crotch's bumble bee were conducted in 2025. As a result of these focused surveys, coastal California gnatcatcher, least Bell's vireo, and burrowing owl were all found and are considered present on the study area. Other special-status wildlife species directly observed during field surveys within the study area include: osprey, Cooper's hawk, white-tailed kite, California gull, prairie falcon, osprey, double-crested cormorant, white-faced ibis, Costa's hummingbird (*Calypte costae*), rufous hummingbird (*Selasphorus rufus*), yellow-breasted chat (*Icteria virens*), and yellow warbler (*Setophaga petechia*).

The results of the southwestern willow flycatcher focused surveys were negative and as such, this species is considered absent from the project site. In addition, the results of the focused Crotch's bumble bee surveys were

negative and as such, this species is considered absent from the project site. Locations of observed Special status wildlife species on the study area are depicted on Figure 10: Sensitive Biological Resources. Eash of the special-status wildlife detected on the project site are described in further detail herein.

Least Bell's Vireo (*Vireo bellii pusillus*)

Least Bell's vireo is a federal and state-listed endangered species that is conditionally covered under the Central/Coastal Subarea of the OC NCCP/HCP (County of Orange 1996). This species inhabits dense shrubby habitat dominated by willow (*Salix sp.*) and cottonwood (*Populus fremontii*) riparian forest, and can also nest in mulefat, California wild rose (*Rosa californica*), poison oak (*Toxicodendron diversiloba*), and mugwort. It nests from March through September in southern California. Nests occur one meter above the ground, in many types of dense low shrubs affording protection and cover (CWHR 2022). Least Bell's vireo is often found adjacent to intermittent streams in arid regions.

Between 6 to 8 least Bell's vireo were observed throughout the riparian woodlands on the project site during the 2020 focused survey effort. The 2025 focused survey effort similarly detected least Bell's vireo throughout the riparian woodlands on the project site. (Figure 10: Sensitive Biological Resources). Most were indirectly observed by hearing males singling, indicating that breeding territories were being established over the course of the survey effort. Some were also observed directly. Although no nesting vireos were detected during focused surveys, nesting is expected to occur within the focused survey area. It is estimated that approximately 6 to 8 male least Bell's vireos are attempting to establish breeding territories within the focused survey area. The detailed results of the focused surveys for least Bell's vireo are included in Appendix E: Focused Survey Results for Least Bells' Vireo and Southwestern Willow Flycatcher.

Cooper's Hawk (*Accipiter cooperii*)

Cooper's hawk is a CDFW Watch List (WL) species. It is found throughout California in wooded areas. This species inhabits live oak, riparian, deciduous, or other forest habitats near water. Nesting and foraging usually occur near open water or riparian vegetation. Nests are built in dense stands with moderate crown depths, usually in second-growth conifer or deciduous riparian areas. Cooper's hawk uses patchy woodlands and edges with snags for perching while it hunts for prey such as small birds, small mammals, reptiles, and amphibians within broken woodland and habitat edges (Zeiner et al. 1990).

Cooper's hawk was observed within the southeastern portion of the project site (Figure 10).

Burrowing Owl (*Athene cunicularia*)

Burrowing owl is a USFWS BCC, and CSFW SSC species. It occurs throughout North and Central America west of the eastern edge of the Great Plains south to Panama. The winter range is much the same as the nesting range, except that most burrowing owls apparently vacate the northern areas of the Great Plains and the Great Basin in winter (County of Riverside 2008). The majority of burrowing owls that breed in Canada and the northern United States are believed to migrate south during September and October and north during March and April and into the first week of May. These individuals winter within the nesting habitat of more southern populations. Thus, winter observations may include migratory individuals and the resident population (County of Riverside 2008). The burrowing owls in Northern California are believed to migrate (Coulombe 1971).

In California, burrowing owls are year-round residents of flat, open, dry grassland and desert habitats at lower elevations. They can inhabit annual and perennial grasslands and scrublands characterized by low-growing

vegetation. They may be found in areas that include trees and shrubs if the cover is less than 30%; however, they prefer treeless grasslands (Bates 2006). Although burrowing owls prefer large, contiguous areas of treeless grasslands, they have also been known to occupy fallow agriculture fields, golf courses, cemeteries, road allowances, airports, vacant lots in residential areas and university campuses, and fairgrounds when nest burrows are present (Bates 2006; County of Riverside 2008). They typically require burrows made by fossorial mammals, such as California ground squirrels. This species also prefers sandy soils with higher bulk density and less silt, clay, and gravel (Lenihan 2007).

One burrowing owl was incidentally observed within the study area buffer during the jurisdictional delineation conducted in 2019. As such, focused surveys for burrowing owl were conducted in 2020, and the results were positive. One burrowing owl was observed along a disturbed dirt access path adjacent to the Santa Ana River, on the western portion of South Talbert, immediately outside of the project site boundary but within the study area buffer. Focused surveys for burrowing owl were conducted again in 2025 and the results were negative. However, suitable nesting and foraging habitat is still present, and due to the 2020 positive focused surveys results, the potential for burrowing owl to occur on the site in the future is high. Figure 10: Sensitive Biological Resources, details the locations of burrowing owl observed on the project site during biological surveys.

Costa's Hummingbird (*Calypte costae*)

Costa's hummingbird is a USFWS BCC that occurs in southern California and is found along the southern coast in the winter. It prefers arid habitats including desert wash, edges of desert riparian and foothill riparian, coastal scrub, desert scrub, lower-elevation chaparral, and fan palm oasis (Johnsgard 1983). Costa's hummingbird breeds from April through July along the coast.

Costa's hummingbird was observed foraging throughout the coastal sage scrubs within the project site (Figure 10).

Rufous Hummingbird (*Selasphorus rufus*)

Rufous hummingbird is a USFWS BCC that breeds in the northwestern United States. It is a common migrant and uncommon summer and winter resident of California. It is found in a variety of habitats that provide nectar-producing flowers including foothill hardwood, valley foothill hardwood-conifer, riparian, and various scrub and chaparral habitats (Garrett 1981).

Rufous hummingbird was observed foraging throughout the project site on various floral resources within the scrub and riparian habitats.

White-Faced Ibis (*Plegadis chihi*)

White-faced ibis is a Species of Special Concern by CDFW. It is an uncommon summer resident that feeds in fresh emergent wetland, riparian, shallow lacustrine waters, muddy ground or wet meadows, and irrigated or flooded pastures and croplands. The white-faced ibis nests in dense, fresh emergent wetland or marshland near foraging areas in shallow water or muddy fields (Garrett 1981).

White-faced ibis was observed dispersing over the pond at South Talbert (Figure 10).

California Gull (*Larus californicus*)

The nesting colonies of the California gull is a Watch List (WL) species by CDFW and a USFWS BCC. It occurs along coastal shores and nests from mid-April through mid-August, usually in colonies with other waterbirds. Preferred habitats along the coast are sandy beaches, rocky intertidal, mudflats, and pelagic areas of marine and estuarine habitats, as well as fresh and saline emergent wetlands (Garrett 1981).

California gull was observed dispersing throughout the project site (Figure 10), No nesting or roosting activity was observed.

Double-Crested Cormorant (*Nycticorax nycticorax*)

Double-crested cormorant is a SSC by CDFW. It is a yearlong resident along the entire coast of California and inland lakes, in fresh, salt, and estuarine waters. The double-crested cormorant nests in daytime and roosts overnight beside water on offshore rocks, islands, steep cliffs, dead branches of trees, wharfs, jetties, or even transmission lines. Perching sites must be barren of vegetation (Bartholomew 1943). It must visit perches periodically in the day to dry plumage, and sometimes rests, or even sleeps, on water in the daytime (Palmer 1962). The double-crested cormorant requires undisturbed nest-sites beside water, on islands or mainland, and uses wide rock ledges on cliffs, rugged slopes, and live or dead trees, especially tall ones. It breeds from April through August.

Double-crested cormorant was observed perched on a dead tree branch within the pond in South Talbert (Figure 10).

White-Tailed Kite (*Elanus leucurus*)

White-tailed kite is a fully protected (FP) species by CDFW. White-tailed kite occurs mainly in lowlands of southern and northwestern cismontane California in savannah, open woodland, marshes, cultivated fields, and partially cleared lands (Zeiner et al. 1990). White-tailed kite hunts in the morning and late afternoon for voles and mice, usually near farmlands. It is non-migratory but can be nomadic and dispersive in its movements, and often occurs in communal roosts (Unitt 2004). Nests are made of piled sticks and twigs and placed near the tops of oak, willow, or other trees near marshes and foraging areas (Zeiner et al. 1990).

White-tailed kite was observed within the southern portion of the project site (Figure 10).

Prairie Falcon (*Falco mexicanus*)

Prairie falcon is a USFWS Watch List (WL), BCC, and Covered Species. Prairie falcon is an uncommon permanent resident that ranges from southeastern deserts throughout the Central Valley and along the inner Coastal Ranges and Sierra Nevada (Zeiner et al. 1990). This species is primarily associated with perennial grasslands, savannahs, rangeland, agricultural fields, and desert scrub habitats. Prairie falcons nest on a sheltered ledge of a cliff overlooking a large, open area (Zeiner et al. 1990).

Prairie falcon was observed within the southern portion of the project site (Figure 10).

Osprey (*Pandion haliaetus*)

Osprey is a WL species. Osprey is an uncommon winter visitor along the coast and inland lakes of southern California (Garrett and Dunn 1981). Ospreys require open, clear water for foraging and uses large trees and snags

in open forest habitat for cover and nesting. This species has been observed within San Diego County at Lake Hodges, Cuyamaca, Barratt, and Morena but more widely in winter than during breeding season (SDNHM 2012).

Osprey was observed within the northeastern portion of the project site (Figure 10).

Coastal California Gnatcatcher (*Polioptila californica californica*)

Coastal California gnatcatcher is federally threatened, SSC, and Covered Species. This species occurs in coastal Southern California and Baja California year-round, where it depends on a variety of arid scrub habitats. California gnatcatcher occurs mainly on cismontane slopes (coastal side of the mountains) in Southern California, ranging from Ventura and northern Los Angeles Counties south through the Palos Verdes Peninsula to Orange, Riverside, San Bernardino, and San Diego Counties. The species' range continues south to El Rosario, Mexico. Initially it was reported that 99% of all coastal California gnatcatcher locality records occurred at or below an elevation of 984 feet amsl (Atwood 1990; Atwood and Bolsinger 1992). Since that time, data collected at higher elevations show that the species may occur as high as 3,000 feet amsl, but that more than 99% of the known coastal California gnatcatcher locations occur below 2,500 feet amsl (65 FR 63680). Because of the natural topography of the Southern California hills and mountain ranges, most of the higher-elevation locations are more inland, where population densities tend to be much lower than coastal populations.

Coastal California gnatcatcher typically occurs in or near coastal scrub vegetation that is composed of relatively low-growing, dry-season deciduous and succulent plants. Characteristic plants of this community include coastal sagebrush, various species of sage, Eastern Mojave buckwheat, lemonade berry, California brittlebush (*Encelia californica*), and cactus (e.g., *Opuntia* spp.). Coastal California gnatcatcher also occurs in chaparral, grassland, and riparian vegetation communities where the coastal scrub community is close (Bontrager 1991). Use of these vegetation communities appears to be most frequent during late summer, autumn, and winter, with smaller numbers of birds using such areas during the nesting season. Coastal California gnatcatcher tends to occur most frequently in the coastal sagebrush–dominated stands on mesas, gently sloping areas, and along the lower slopes of the Coast Ranges (Atwood 1990). Coastal California gnatcatcher occurs in high frequencies and densities in coastal scrub communities with an open or broken canopy, but it is absent from coastal scrub dominated by tall shrubs, and occurs in low frequencies and densities in low coastal scrub with a closed canopy (Weaver 1998).

Coastal California gnatcatcher gleans insects and spiders from foliage of shrubs, primarily Eastern Mojave buckwheat and coastal sagebrush (Atwood 1993). Coastal California gnatcatcher habitat use has been positively associated with insect abundance and diversity (Redak et al. 1996, as cited in Diffendorfer et al. 2002).

Coastal California gnatcatcher nests usually are located in a small shrub or cactus 1 to 3 feet above the ground. Territory size varies and is influenced by season and locale (Preston et al. 1998) but is unrelated to vegetation structure (Braden et al. 1997). During the breeding/nesting season, territories in coastal areas are often smaller—averaging 5.7 acres (Atwood et al. 1998a, 1998b)—than those in more inland regions, which average 8.4 acres (Braden et al. 1997).

Coastal California gnatcatcher was detected in three locations, including two detections in the northern portion, and one detection in the southern portion of the project site during 2020 focused surveys. Approximately three coastal California gnatcatcher breeding pairs and two lone males were observed and detected within the survey area during the focused surveys. The observations within South Talbert consisted of a solitary male observed on two separate occasions foraging within mulefat scrub habitat. The observations within North Talbert consisted of a

single male in the southern and northern portion of North Talbert, and at least three foraging pairs in the northern portion of North Talbert. No active nesting was observed within the survey area during the focused surveys.

Focused surveys for coastal California gnatcatcher were conducted again in 2025 and the results were negative. Although the project site is currently considered absent of coastal California gnatcatchers, there is still suitable habitat present and the potential for them to occur or nest on site in the future is high. Appendix F: 2020 and 2025 Coastal California Gnatcatcher Focused Survey Results Reports, contains further information on focused survey methodology and results of the 2020 and 2025 focused surveys. Figure 10: Sensitive Biological Resources, depicts the locations of all coastal California gnatcatchers observed on site during the biological surveys.

Yellow Warbler (*Setophaga petechia*)

Yellow warbler is a BCC, and SCC species. Yellow warbler inhabits riparian woodland in coastal and desert lowlands, montane chaparral, open ponderosa pine, and mixed conifer habitats (Zeiner et al. 1990). This species breeds along the coast of California west of the Sierra Nevada, and eastern California from Lake Tahoe south to Inyo County. Yellow warbler occurs in medium-density woodlands and forests with heavy brush understory, and migrates to sparse to dense woodland and forest habitats.

Yellow warbler was incidentally observed within riparian habitat in the northwestern portion of the project site (Figure 10).

Yellow-breasted Chat (*Icteria virens*)

Yellow-breasted chat is a BCC and SSC species that inhabits riparian woodlands with a thick understory of brush or scrub. It prefers willow riparian woodlands near streams or rivers. This species breeds from May through August, as a summer migrant and resident in coastal California as well as in the foothills of the Sierra Nevada (CWHR 2022).

Yellow-breasted chat was incidentally observed during the biological surveys foraging within the riparian woodlands on the project site (Figure 10).

Crotch's Bumble Bee (*Bombus crotchii*)

Crotch's bumble bee is generally distributed through wildlands and rural areas in low to middle elevations (sea level to at least 6000 feet) of California and exploits a wide range of habitats including native and exotic grasslands, coastal marshes, scrub lands, chaparral, oak-juniper woodlands, pinon woodlands, as well as desert transition vegetation on western margins of the Mojave and Colorado deserts. Crotch's bumble bee use a diverse range of floral resources including those among *Asclepiadaceae, Asteraceae, Boraginaceae, Brassicaceae, Ericaceae, Fabaceae, Hydrophyllaceae, Lamiaceae, Orobanchaceae, Plumbaginaceae, Polygonaceae, Scrophulariaceae,* and *Solanaceae.* Typically, *Asclepias spp., Salvia spp., Astragalus spp., Acmispon spp.,* and Vicia spp. are among much preferred flowers.

Mated gynes (future founding queens) overwinter in soil cavities (The Xerces Society for Invertebrate Conservation 2023; CDFW 2023b), emerge in the early spring to begin new colonies, provisioning their young with pollen and nectar. As the spring season progresses, workers (small female non-reproductive bees) are produced with increasing numbers and escalate the provisioning of the colony, which continues to grow until in early to mid-summer when new males (from unfertilized eggs) are produced along with the new generation of future queens. Workers and males live for only a few weeks. Thus, overall Crotch's bumble bee numbers are

highest (include workers and males) in late spring through mid-summer seasons, very low in fall and early spring (gynes only), and virtually undetectable during the overwintering season (when dormant underground).

The project site includes coastal marsh, coastal sage scrub vegetation and non-native grasslands that have the potential to support foraging activity for Crotch's bumble bee. These vegetation communities on the project site support multiple plants in the families *Asteraceae, Boraginaceae, Brassicaceae, Fabaceae, Hydrophyllaceae, Lamiaceae, Plumbaginaceae, Polygonaceae, Scrophulariaceae,* and *Solanaceae.*

Multiple bumble bee species were observed foraging on distant phacelia (*Phacelia distens*), black sage *(Salvia mellifera*), silver lupine (*Lupinus albifrons), and brittlebush (Encelia californica)* in coastal scrub habitats within the project site, both at North Talbert and South. Worker and queen yellow-faced bumble bee (*Bombus vosnesenskii*), worker black-tailed bumble bee (*Bombus melanopygus*), and worker yellow bumble bee (*Bombus fervidus*) were detected during the focused Crotch bumble bee photograph surveys. Approximately 10% of the project site supported floral resources in bloom during the focused Crotch's bumble bee surveys. No Crotch's bumble bee were detected in the project site and as such, this species is considered absent.

4.5 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for dispersal or migration of animals, as well as dispersal of plants (e.g., via wildlife vectors). Wildlife corridors contribute to population viability in several ways: (1) they assure continual exchange of genes between populations, which helps maintain genetic diversity; (2) they provide access to adjacent habitat areas representing additional territory for foraging and mating; (3) they allow for a greater carrying capacity; and (4) they provide routes for colonization of habitat lands following local population extinctions or habitat recovery from ecological catastrophes.

Habitat linkages are patches of native habitat that function to join two larger patches of habitat. They serve as connections between habitat patches and help reduce the adverse effects of habitat fragmentation. Although individual animals may not move through a habitat linkage, the linkage is a potential route for gene flow and long-term dispersal. Habitat linkages may serve both as habitat and avenues of gene flow for small animals such as reptiles, amphibians, and rodents. Habitat linkages may be represented by continuous patches of habitat or by nearby habitat "islands" that function as steppingstones for dispersal and movement (especially for birds and flying insects).

The Central–Coastal Subregion NCCP/HCP does not identify specific habitat linkages, but did include evaluation of habitat value for reserve design. The project area includes some "medium" value habitat identified as a Reserve System, but is generally isolated from large blocks of habitat (Figure 3). The project area lies on the northern end of the central subregion; therefore, the NCCP/HCP does not identify biological resources adjacent to the north of this area. To the south, the NCCP/HCP identifies habitats associated with Newport Bay, approximately 3.5 miles from Talbert Regional Park, separated by urbanized areas within the City of Costa Mesa. There are upland and wetland habitats present on the adjacent property to the south. There are additional coastal wetlands approximately 1 mile and 2.5 miles to the southwest and west of the site, but these two are separated from the site by urbanized development within the City of Huntington Beach. Based on these characteristics, the potential for function of the study area as a wildlife corridor or habitat linkage is limited to potential linkages for migratory birds, shorebirds, and possibly some urban-adapted small and medium-sized mammals. Coyote would be the largest species expected to utilize this corridor.

4.6 Regional Resource Planning Context

This section includes discussion of all regional planning documents that address biological resources within the study area. The entire project site boundary is located within the County of Orange Central–Coastal Subregion NCCP/HCP (Figure 3). In general, the NCCP/HCP evaluated a set of covered species and habitat (mostly focused on coastal sage scrub species including coastal California gnatcatcher (*Polioptila californica californica*) and coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*)) and determined an acreage of covered species/habitat take that could be authorized because adequate conservation would be achieved through assemblage and management of a reserve as designated by the plan. Covered species/habitat within the project site includes coastal sage scrub. Wetlands and riparian habitats are not covered habitats, and least Bell's vireo (*Vireo bellii pusillus*) is a conditionally covered species. The project site is within the Central Subarea under the NCCP/HCP as a designated Reserve (Talbert Regional Park) with the study area buffer designated as Urban or Existing Use (or authorized take areas) (Figure 3).

Under the NCCP/HCP, a list of entities are identified as participating landowners and includes the County of Orange and Irvine Ranch Company, amongst others. These entities were granted an acreage of specific take authorization for specific projects/activities that would result in impacts both within the Urban (take authorized) area and Reserve. The OC Parks and Public Works departments are entities of the County of Orange, which is listed as a participating landowner in the Central–Coastal Subregion NCCP/HCP. Therefore, take authorization of covered species is granted through participation in the NCCP/HCP, and impacts to covered sensitive natural communities would be mitigated through payment of the mitigation fee. Selection of the mitigation fee option to address impacts to coastal sage scrub species will be covered under the terms of the USFWS Section 10(a)(1)(B) permit and CDFW Management Authorization granted to the local government with jurisdiction over the proposed activity. No additional approvals pursuant to FESA, CESA, and the Natural Community Conservation Planning Act (NCCP Act) would be required.

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5 Project Impacts

This section addresses direct and indirect impacts to biological resources that would result from implementation of the project. The significance determinations for proposed or potential impacts are described and proposed mitigation is provided in Section 5, Significant Impacts and Mitigation. Cumulative impacts are addressed in the project's Mitigated Negative Declaration (MND).

Direct impacts refer to complete loss of a biological resource. For purposes of this report, it refers to the area where vegetation clearing, grubbing, or grading replaces biological resources on the direct project site footprint. Direct impacts were quantified by overlaying the proposed impact limits on the biological resources map of the study area. Direct impacts would occur from maintenance activities.

Indirect impacts are reasonably foreseeable effects caused by a project's implementation on remaining or adjacent biological resources outside the direct disturbance zone. For purposes of this report, indirect impacts may affect areas outside the disturbance zone, including open space and within the 500-foot study area buffer. Indirect impacts may be short-term and construction-related, or long-term and associated with development in proximity to biological resources.

Cumulative impacts refer to the combined environmental effects of a project and other relevant projects. These impacts may be minor when analyzed individually but become collectively significant as they occur over time. Cumulative impacts are addressed in the project's Mitigated Negative Declaration.

The evaluation of project impacts is organized by the resource potentially affected: riparian and sensitive vegetation communities (special-status vegetation communities), special-status species, jurisdictional waters and wetlands, and wildlife movement.

5.1 Proposed Project Components

The Master Plan organizes the proposed project into three main components: key improvements, infrastructure improvements, and habitat restoration. The extent of proposed project impacts are depicted on Figure 2 and described in further detail herein. For the purpose of this report, the proposed project components have been organized into permanent and temporary project components.

5.1.1 Permanent Project Components

Project components that will result in a permanent impact to biological resources on the project site include proposed key improvements and proposed infrastructure improvements. The extent of permanent impacts anticipated as a result of implementing key improvements and infrastructure improvements are described below.

5.1.1.1 Permanent Key Improvements

Design concepts for the Park have evolved through a collaborative process between the County, public engagement, and subsequent feedback from surrounding communities that were collected as part of the Talbert Habitat Restoration Plan. The proposed improvements began as concepts designed to be compatible with the surrounding context and provide a higher degree of function as well as recreational opportunities. Three proposed key

improvements will result in a permanent impact through vegetation removal and/or grading: Nature Center, Balboa Boulevard Entrance, and Infrastructure Improvements.

Nature Center

A new Nature Center is proposed within the northeastern corner of the North Talbert parcel at the location of the existing restrooms. The existing restrooms are provided in a small, circular building (approximately 250 square feet in size) located on a concrete slab/foundation and constructed of concrete masonry blocks. The Nature Center building would be approximately 500 square feet in size, and would be constructed of concrete with a stucco finish and metal roof. The Nature Center may include a small classroom area, restrooms, and interpretive signage to serve as an educational center for park visitors.

Balboa Boulevard Entrance

Improvement of the existing Balboa Boulevard entrance would accommodate emergency and maintenance vehicles, bikes, and pedestrians. As proposed, the existing railroad-tie stairs providing park access from adjacent Balboa Boulevard and located near the intersection of Balboa Boulevard and Discovery Drive would be retained and supplemented with a new a 15-foot-wide ADA-compliant ramp that would accommodate emergency vehicle access. A gate and rolled curb opening area proposed at the ramp entrance off Balboa Boulevard (the ramp entrance is proposed approximately 620 feet to the south of the existing railroad tie stairs). Approximately 42,000 cubic yards of fill would be required for the proposed entry ramp (and proposed trails in South Talbert) A monument pedestrian arrival sign would be installed off Balboa Boulevard and near the proposed access ramp and wayfinding signage would also be installed within the park (near the existing railroad tie stairs and near the lower elevation end of proposed access ramp) to direct visitors to the Park and to enhance safety.

5.1.1.2 Permanent Infrastructure Improvements

Trail Improvements

The bike and pedestrian trail system constitutes the primary visitor activity within the Park. The South Talbert pedestrian circulation route is to be improved as a raised, 15-foot wide trail. This improvement, that would entail raising the existing trail (approximately 8,350 feet in length) up to 18 inches from its current elevation, would correct the existing drainage and ponding problem by reducing the occurrence of seasonal wet areas. Additionally, a new 4-foot-wide, 200-foot long, single-track trail (not raised) in North Talbert and a new, 15-foot wide, 2,020 foot long trail (raised) in South Talbert is proposed to enhance connections within the existing network by providing formalized access to the existing Victoria Pond and lateral, more direct access to the nearby Banning Channel Bikeway. This enhanced system would also accommodate requirements for both ADA and emergency access.

Maintenance Yard

Proposed improvements to the existing maintenance yard located in North Talbert include providing electrical service, as well as durable security fencing, a security camera, and lighting. The existing maintenance yard area consists of two mostly fenced areas (and associated storage trailers (shipping containers) totaling approximately 4,750 square feet and surrounding disturbed and unvegetated lands. Electrical service would be extended from

the existing restrooms located in the northeastern corner of the North Talbert parcel to provide service to the maintenance yard. Trenching for electrical service would occur within existing roads/areas of linear disturbance.

Wayfinding

Wayfinding signage will be installed throughout the Park to announce arrival, strengthen branding identity as a part of the OC Parks system and provide clear direction. Proposed signage types include Arrival Signs, Directional Signs, Interpretive Signs, and Trail Markers. Signage will be placed throughout the project site in appropriate areas as determined through final project design. Since signage locations have not been selected at this time, these minimal impacts are not included in project impact calculations and are instead qualitatively assessed for this impact analysis.

5.1.2 Temporary Project Components

Temporary project components include South Talbertall habitat restoration activities proposed throughout the project site.

5.1.2.1 Habitat Restoration

The Park functions as a protected nature area within the urban fabric and is home to wildlife species that are dependent on the health of the larger ecosystem. The Master Plan calls for restoration through the removal of non-native vegetation throughout South Talbert, and at the Placentia Drain within North Talbert. Planting of native coastal sage and riparian tree species is planned within South Talbert to expand the existing mitigation/restoration areas. The Restoration Plan includes the following components, which will result in temporary direct impacts to vegetation communities, rare plants, wildlife, and aquatic resources through vegetation clearing/thinning, grading, and excavation:

Non-Native Plant Removal

Throughout the Park, removal of non-native vegetation is to be conducted on an on-going basis. Specifically, exotic tree species including Brazilian Pepper and Myoporum are to be removed in the area directly south of Victoria Pond. These trees are to be replaced by natives and the removal will create open areas where expansion of native habitat will be promoted. Specific removal locations have not been identified as part of the Master Plan design as this activity will occur throughout the project site, as appropriate. Therefore, impacts related to non-native plant removal have not been included in impact calculations in this analysis. However, it can be assumed that non-native vegetation communities on the project site will be impacted by this proposed activity.

Vegetative Thinning

To discourage the existing encampments within the Park, thinning of dense shrubs in selected areas is proposed. Current encampment areas are to be partially cleared to provide a higher level of visibility to promote public safety. These areas have not been identified at the time of preparing this report and therefore impact calculations for this activity have not been included in this impact analysis.

5.2 Applicant Proposed Project Design Features

Several applicant-proposed project design features (PDFs) will be employed during implementation of the proposed project to avoid and minimize potential direct and indirect effects of construction on the study area. These PDFs include regulatory requirements and elements incorporated into the Master Plan development procedure to ensure compatibility with natural resource conservation goals.

- **PDF BIO-1.** Sediment and erosion control measures would be developed and implemented in accordance with RWQCB Construction General Permit requirements to reduce the potential for the project to result in increased siltation of, or release of pollutants into creeks and their tributaries. Best management practice (BMP) categories employed would include erosion control, sediment control, and non-stormwater good housekeeping.
- **PDF BIO-2.** The footprint of disturbance would be limited to the maximum extent feasible, such as limiting access to via pre-existing access routes to the greatest extent possible. Parking, staging, storage, excavation, and disposal site locations would be confined to the smallest areas possible and be positioned at previously disturbed areas to the greatest extent practical.
- **PDF BIO-3.** To reduce fugitive dust resulting from project construction and to minimize adverse air quality impacts, the project would employ dust control measures in accordance with the Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction
- **PDF BIO-4.** To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 2 feet deep would be covered with tarp, plywood, or similar materials at the close of each working day to prevent animals from being trapped. Ramps may be constructed of earth fill or wooden planks within deep-walled trenches to allow for animals to escape. Before such holes or trenches are backfilled, they would be thoroughly inspected for trapped animals. If trapped animals are observed, escape ramps or structures would be installed immediately to allow escape. If the trapped animal is injured and cannot use escape ramps or structures, a qualified biologist would be contacted to identify the appropriate next steps.
- **PDF BIO-5.** All construction pipes, culverts, and similar structures that are stored at the construction site for one or more overnight periods would be thoroughly inspected for burrowing owls and nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved. An option is to cap the ends of any stored pipes to prevent any animals from entering. If an animal is discovered inside a pipe, that section of pipe would not be moved until the project biologist or designated representative has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated out of harm's way by an approved biologist.
- **PDF BIO-6.** The project will include a Habitat Restoration Plan as part of the design of the project. While the proposed project is considered a park restoration project, the Habitat Restoration Plan will guide the restoration activities for the project and will detail the proposed methods of restoration, including application type and planting palette. Additionally, the plan will include performance standards to assess the success of the project compared to baseline conditions and inform adaptive management. The Habitat Restoration Plan will be approved by the resource agencies to ensure compliance with allowed uses within the OC NCCP/HCP Reserve and maintenance/improvement of habitat function for covered species.
- **PDF BIO-7.** No invasive non-native plant species shall be planted, seeded, or otherwise introduced as part of the project. Plant material shall be native species appropriate to the site. A qualified biologist shall review landscape plans before approval.

- **PDF BIO-8.** Equipment would be cleaned prior to transport to the project site to prevent potential non-native plant species and other foreign matter, such as sediment and debris, from entering the site.

5.3 Impacts to Special-Status Plants

5.3.1 Direct Impacts

No federally or state-listed as threatened and/or endangered plant species were observed during the focused rare plant surveys conducted in spring and summer of 2020 and 2025, and therefore are considered absent from the project site. Five rare and sensitive plants designated with a California Rare Plant Rank of 1 through 3 were observed on the project site during focused rare plant surveys. southern tarplant (CRPR 1.B.1), decumbent goldenbush (CRPR 1B.2), San Diego marsh-elder (CRPR 2B.2), mud nama (CRPR 2B.2), and Lewis's evening primrose (CRPR 3),

Of those, southern tarplant may be directly and permanently impacted by vegetation clearing and grading for construction of trails (Figure 7). Mud nama, decumbent goldenbush, Lewis's evening primrose, and San Diego marsh-elder will not be directly or permanently impacted by construction of the proposed project.

5.3.1.1 Southern Tarplant

Thousands of individual southern tarplant (tarplant fields) will be directly impacted by trail improvements throughout the project site (Figures 7-9 through 7-12: Vegetation Communities Impacts; Figure 10: Sensitive Biological Resources). Tar plant fields are ranked by CDFW as a sensitive native natural community (S2); southern tarplant is ranked 1B.1 by CRPR and is considered rare or endangered in California and elsewhere.

5.3.2 South TalbertIndirect Impacts

Construction-related indirect impacts to special-status plants may be caused by temporary construction access and staging, as well as inadvertent spillover impacts outside of the construction footprint related to chemical spills, dust, stormwater erosion and sedimentation, and increased wildfire risk. Additionally, non-native seed may be introduced during construction from off-site vehicles and equipment entering the site.

Without construction-related minimization measures discussed in the applicant proposed project design features (Section 5.1.4), indirect impacts to vegetation communities that may support special-status plants could occur.

5.4 Impacts to Special-Status Wildlife

5.4.1 Direct Impacts

The project site contains suitable habitat to support 14 special-status avian species that were observed during focused surveys or other biological surveys conducted on site from 2019-2025: least Bell's vireo, coastal California gnatcatcher, burrowing owl, prairie falcon, osprey, Cooper's hawk, California gull, double-breasted cormorant, white-faced ibis, Costa's hummingbird, rufous hummingbird, white-tailed kite, yellow warbler, and yellow-breasted chat (Figure 10: Sensitive Biological Resources). Least Bell's vireo, coastal California gnatcatcher, and prairie falcon are covered species under the OC NCCP/HCP. Additionally, least bell's vireo and prairie falcon were observed on site in

2025, while coastal California gnatcatcher was not. Note that red-shouldered hawk was observed on the project site, and although not listed by CDFW or USFWS, is protected by the MBTA as well as fully covered under the Orange County Central/Coastal NCCP/HCP. OC Parks is a signatory to the OC NCCP/HCP and therefore is provided take coverage for covered species or habitats that may be impacted by the project.

Direct impacts to suitable habitats for these special-status avian species would occur throughout the project site as a result of vegetation clearing and grading for construction of the proposed project. The proposed project's direct impacts to each of these special-status avian species are discussed in further detail herein.

Coastal California Gnatcatcher

Coastal California gnatcatcher is a federally and state-listed endangered species that is covered by the OC Central/Coastal Subarea NCCP/HCP and inhabits low-elevation coastal sage scrub dominated by California sagebrush and California buckwheat. This species was observed foraging throughout the California brittlebush-California sagebrush-black sage-coyote bush scrub, blue elderberry-toyon, mulefat-blue elderberry, and southwestern spiny rush habitats on North Talbert (Figures 7-3, 7-4, and 10). In addition, this species was observed foraging in black willow-mulefat habitat adjacent to Victoria Pond, and arroyo willow habitat on South Talbert (Figures 7-9 and 10). Portions of blue elderberry-toyon habitat will be directly impacted by vegetation clearing and grading for trail improvements on North Talbert. In addition, portions of black willow-mulefat habitat adjacent to Victoria Pond will be directly impacted by vegetation trimming and clearing for trail improvements. Temporary direct impacts to this vegetation community will occur as well as a result of the Victoria Pond staging area.

As such, the project could result in potentially direct and indirect impacts to this species as will occur if vegetation clearing and grading of the blue elderberry-toyon and black willow-mulefat habitats cannot be avoided, and construction occurs within this species breeding season of February – August.

Least Bell's Vireo

Least Bell's vireo is a federally and state listed endangered species that is covered by the Orange County Central/Coastal Subarea NCCP/HCP and inhabits riparian woodlands dominated by willows and cottonwoods. Coastal California gnatcatcher is a federally threatened and state Species of Special Concern that is also covered under the Orange County Central/Coastal Subarea NCCP/HCP and inhabits coastal sage scrub communities.

Least Bell's vireo was observed throughout the mulefat-blue elderberry and coyote brush scrub habitats on North Talbert, as well as the Myoporum-black willow, arroyo willow, black and arroyo willow-mulefat, mulefat thickets, and pickleweed mats on South Talbert (Figures 7-6, 7-8, 7-10 through 12, Figure 10). Portions of South Talbert where least Bell's vireo were observed, specifically pickleweed mats and black and arroyo willow-mulefat, will be directly impacted by vegetation clearing and grading for construction of proposed trail improvements.

As such, the project could result in potentially direct and indirect impacts to this species if the riparian woodland habitat cannot be avoided and construction occurs within this species breeding season from April 15 through June 30.

Burrowing Owl

Burrowing owl is a California Species of Special Concern and USFWS Bird of Conservation Concern that inhabits disturbed areas and grasslands with small animal burrows for cover and breeding. Burrowing owl was observed in

the study area buffer on a disturbed trail adjacent to Santa Ana River during the jurisdictional delineation survey (Figure 10). Burrowing owl was not observed in the direct project boundary footprint during the focused burrowing owl survey or any other biological surveys in 2020 and the results of the 2025 focused burrowing owl breeding season surveys were negative. However, suitable habitat for this species exists on site, and it could eventually move onto the project site prior to construction.

If burrowing owl is found on site prior to the start of construction, the project may result in potential direct and indirect impacts to this species.

Prairie Falcon

Prairie Falcon is a USFWS Bird of Conservation Concern and a CDFW Watch List species that is covered under the Orange County Central/Coastal Subarea NCCP/HCP and was observed foraging over the mulefat-Menzies goldenbush-quailbush scrub on South Talbert (Figure 10). Portions of this habitat will be direct impacted by vegetation clearing and grading for construction of proposed trail improvements. As such, the project may result in direct and indirect impacts to prairie falcon if vegetation clearing and trimming cannot be avoided during the avian nesting season.

North TalbertOsprey

Osprey is a CDFW Watch List species observed near water on the project site. Osprey was observed on Talbert North, foraging over coyote bush scrub located immediately adjacent to Santa Ana River and Banning Channel (Figure 7-5, Figure 10). No proposed project improvements are anticipated to occur to this area. However, osprey may forage or nest in other habitats that may be directly impacted by proposed project improvements on site. As such, the project may result in direct and indirect impacts to osprey if vegetation clearing and trimming cannot be avoided during the avian nesting season.

Cooper's hawk

Cooper's hawk is a CDFW Watch List species observed foraging over mulefat-blue elderberry and blue elderberry-toyon habitats on North Talbert (Figure 7-3, 7-6, Figure 10). This species was also observed on South Talbert, foraging over mulefat thickets and arroyo willow-mulefat habitats (Figure 7-10, Figure 10). Portions of mulefat thickets and arroyo willow-mulefat habitats on South Talbert will be directly impacted by vegetation clearing and grading for construction of proposed trail improvements. As such, the project may result in direct and indirect impacts to Cooper's hawk if vegetation clearing and trimming cannot be avoided during the avian nesting season.

California Gull

California Gull is a USFWS BCC and the nesting colonies of the California gull are Watch List (WL) species by CDFW. California gull was observed dispersing throughout multiple vegetation communities in the project site (Figure 10), No nesting or roosting activity was observed. As such, the project may result in direct and indirect impacts to California gull if vegetation clearing and trimming cannot be avoided during the avian nesting season.

Double-Crested Cormorant (*Nycticorax nycticorax*)

Double-crested cormorant is a SSC by CDFW. It was observed foraging and perched at Victoria pond in South Talbert, both within the pond and in surrounding riparian habitat. Proposed improvements to the pond may

result in direct and indirect impacts to white-faced ibis if vegetation clearing and trimming cannot be avoided during the nesting season.

White-faced ibis

White-faced ibis is a Species of Special Concern by CDFW. It was detected foraging within riparian habitat surrounding Victoria pond in the northern portion of South Talbert (Figure 10). Proposed improvements to the pond may result in direct and indirect impacts to white-faced ibis if vegetation clearing and trimming cannot be avoided during the nesting season.

White-tailed kite

White-tailed kite is a CDFW Fully-Protected species found in the California sycamore-coast live oak woodlands, blue elderberry-toyon habitat, and arroyo willow thickets on the project site (Figures 7-4, 7-12, 10). Portions of the California sycamore-coast live oak woodland and elderberry-toyon habitats will be directly impacted by construction of proposed trail improvements. As such, the project may result in direct and indirect impacts to white-tailed kite if vegetation clearing and trimming cannot be avoided during the avian nesting season.

Costa's Hummingbird

Costa's hummingbird is a USFWS BCC that was observed foraging throughout the coastal sage scrubs within the project site and dispersing throughout the project site. Portions of coastal scrub habitat will be directly impacted by construction of proposed trail improvements. As such, the project may result in direct and indirect impacts to white-tailed kite if vegetation clearing and trimming cannot be avoided during the avian nesting season.

Rufous Hummingbird

Rufous hummingbird is a USFWS BCC that was observed throughout the project site foraging in a variety of habitats including mulefat and coastal scrub. Portions of mulefat thickets and coastal scrub will be directly impacted by vegetation clearing and grading for construction of proposed trail improvements. As such, the project may result in direct and indirect impacts to rufous hummingbird if vegetation clearing and trimming cannot be avoided during the avian nesting season.

Yellow-breasted chat

Yellow-breasted chat is listed by CDFW as a Species of Special Concern and by USFWS as a Bird of Conservation Concern. This species was observed within the blue elderberry-toyon, mulefat-blue elderberry, and upland mustards on North Talbert (Figure 7-6, Figure 10). In addition, yellow-breasted chat was observed foraging within mulefat thickets, black willow thickets, and mulefat-Menzies' goldenbush-quailbush habitat on Talbert South (Figures 7-9,7-11, 7-12, 10). Portions of mulefat thickets, black willow thickets, and mulefat-Menzies'goldenbush-quailbush on Talbert South will be directly impacted by vegetation clearing and grading for construction of proposed trail improvements. As such, the project may result in direct and indirect impacts to yellow-breasted chat if vegetation clearing and trimming cannot be avoided during the avian nesting season.

Yellow warbler

Yellow warbler is listed by CDFW as a Species of Special Concern and by USFWS as a Bird of Conservation Concern. This species was observed foraging over the blue elderberry-toyon and coyote bush scrub on Talbert North (Figure 7-4, 7-6, Figure 10). In addition, yellow warbler was observed foraging over southern tarplant patches, black willow thickets, and black willow-mulefat adjacent to Victoria Pond, as well as in mulefat thickets at the southern portion of South Talbert (Figure 7-9, 7-11, Figure 10). As such, the project may result in direct and indirect impacts to yellow warbler if vegetation clearing and trimming of riparian woodlands cannot be avoided during the avian nesting season.

Nesting Migratory Birds and Raptors

The project site contains trees, shrubs, and other vegetation that provide opportunities for birds of prey (raptors) and other avian species to nest on site. Native nesting bird species with potential to occur within the project site are protected by California Fish and Game Code Sections 3503 and 3503.5, and by the federal MBTA (16 USC 703–711). In particular, Section 3503 provides that it is unlawful to take, possess, or needlessly destroy the active nests or eggs of any bird in California; Section 3503.5 protects all raptors and their eggs and active nests; and the MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of native migratory bird species throughout the United States. Recently, the Department of Interior ruled that the MBTA should apply only to "… affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" and will not be applied to incidental take of migratory birds pursuant to otherwise lawful activities. However, that ruling is now under review as a revision to the MBTA that would include prohibitions to incidental take.

Potential direct impacts to nesting birds may occur during project construction if construction activities occur during the avian breeding season of February through August, through direct take (e.g., removal of tree where an active nest is present) or nest failure (e.g., disturbance due to excessive noise or human activity in close proximity to an active nest).

5.4.2 Indirect Impacts

During construction activities, indirect impacts to special-status wildlife species could include an increased human presence and construction-related, noise, dust, soil erosion, and water runoff decreasing or permanently altering habitat suitability for special status wildlife species and avian species protected by the MBTA that could occur on and adjacent to the project site. Without construction-related minimization measures to control dust, erosion, and runoff, and without compliance with National Pollutant Discharge Elimination System (NPDES) requirements, indirect impacts to riparian resources and upland communities could occur. However, applicant PDFs would be implemented to minimize these adverse effects.

Additionally, long-term indirect impacts may result from increased recreational activities due to improvements (e.g., trails and staging areas) proposed under the project. In general, the level of recreation is not expected to expand significantly from existing conditions due solely to improvements planned as part of the project. Rather, improvements proposed as part of the project would likely minimize adverse edge effects by provided clearly designated trails, staging areas, BMX course where certain recreational activities are authorized. This would limit human intrusions into habitat areas throughout the park and may result in an overall improvement to wildlife movement.

5.5 Impacts to Sensitive Vegetation Communities

5.5.1 Direct Impacts

Direct and permanent impacts to vegetation communities and/or land covers will occur from proposed key improvements and infrastructure improvements, while temporary direct impacts will occur from habitat restoration components. A total of thirty-five vegetation communities and/or land covers (including disturbed forms) were mapped in the project site based on general physiognomy and species composition, including 28 native or naturalized vegetation types and seven non-native land covers. Of the 28 native or naturalized vegetation communities, seven are considered sensitive by CNPS (CRPR 1-3). CDFW natural vegetation community sensitivity rankings of 1, 2, and 3 are considered high priority for inventory or special-status, and impacts to these communities typically require mitigation and/or restoration to pre-project conditions. Sensitive vegetation communities (ranked by CNPS as S1 through 3) were mapped within the project site. Specifically, California sycamore – coast live oak (S3), white alder – California sycamore (S3), Menzies's goldenbush scrub (S3), pickleweed mats (S3), , tar plant fields (S2), and American bulrush marsh (S3) occur on the project site. Vegetation communities with a sensitivity rank of 2 are considered imperiled and very vulnerable to extirpation statewide. Vegetation communities with a sensitivity rank of 3 are considered vulnerable to extirpation statewide

Construction of key improvements for the proposed project will permanently and directly impact four of the seven sensitive vegetation communities on the project site: California sycamore-coast live oak, Menzies's goldenbush scrub, pickleweed mats, and tar plant fields. Construction of proposed key improvements for the project would result in direct and permanent impacts to a total of approximately 0.08 acres of vegetation communities and land cover types that are considered sensitive by CDFW. As such, project-related impacts to these communities would require mitigation to comply with the NCCP/HCP. Additionally, coastal sage scrub communities mapped within the study area are considered covered habitats under the County of Orange NCCP/HCP, however, these communities will not be impacted by the project.

Impacts to the four sensitive vegetation communities are described in further detail herein and depicted in Figures 7-1 through 7-12: Vegetation Communities Impacts.

California Sycamore-Coast Live Oak

A total of less than 0.01 acres of California sycamore-coast live oak woodland will be directly and permanently impacted by vegetation clearing and grading for construction of a proposed single track trail within the northeastern portion of North Talbert, and wayfinding signage (Figure 7-4). This sensitive vegetation community is considered an S3 ranked community by CDFW. A total of 3.87 acres (99%) of the California sycamore – coast live oak vegetation community will remain intact on the study area and will not be directly impacted.

Menzies's Goldenbush Scrub

A total of 0.03 acres of Menzies's goldenbush scrub will be permanently and directly impacted by vegetation clearing and grading for construction of proposed trail improvements on the southwestern portion of the project site (Figure 7-9). This sensitive vegetation community is considered an S3 ranked community by CDFW. A total of 2.88 acres (96%) of the Menzies's goldenbush scrub vegetation community will remain undisturbed on the project site and will not be directly impacted.

Pickleweed Mats

A total of 0.12 acres of pickleweed mats, a type of coastal salt and brackish marsh habitat, will be permanently and directly impacted by vegetation clearing and grading for construction of a proposed trail on the southwestern portion of the South Talbert (Figure 7-11). This sensitive vegetation community is considered an S3 ranked community by CDFW. A total of 1.60 acres (75%) of pickleweed mats will remain intact on the project site and will not be directly impacted.

Tar Plant Fields

A total of 0.03 acres of tar plant fields will be permanently directly impacted from vegetation clearing and grading for construction of proposed trail improvements on the southeastern portion of the project site, (Figure 7-9). Alkali heath was observed within this vegetation community and will also be permanently directly impacted from vegetation clearing and grading for proposed trail improvements (Figure 7-12). This sensitive vegetation community is considered an S2 ranked community by CDFW, which is very vulnerable to extirpation. A total of 0.47 acres (64%) of the tar plant fields will remain intact on the project site and will not be directly impacted.

Non-Sensitive Vegetation Communities

Non-native vegetation communities on the study area including fivehook bassia, ice plant mats, upland mustards, and Myoporum would be directly impacted from vegetation thinning and removal for habitat restoration efforts (non-native plant removal, vegetation clearing, and salt marsh channel excavation). These direct impacts to vegetation communities will ultimately result in functionally improved natural habitats and aquatic resources through increased tidal flow and restoration of native vegetation, including willows, bulrush, and rare plants. Other non-native plants, specifically Brazilian and Peruvian pepper trees (*Schinus terebithifolia, S. molle*), will be removed from the area directly south of Victoria Pond to allow for the surrounding native American bulrush marsh and black willow thickets to proliferate (Figure 7-9).

A total of 22 vegetation communities and/or land covers within the study area are not considered sensitive by CDFW. Of these, 19 will be permanently impacted by implementation of key improvements for the proposed project. The project would result in direct and permanent impacts to a total of 4.86 acres of vegetation communities and land cover types that are not considered sensitive by CDFW. Figure 7: Vegetation Communities Impacts, depicts the proposed impacts to vegetation communities on the project site; Table 6 summarizes permanent and direct impacts to vegetation communities and land covers within the project site.

Table 6. Direct Impacts to Vegetation Communities and Land Cover Types on the Project Site

Vegetation Community	Scientific Name	Vegetation Community Code	Temporary Impacts (Restoration) (Acres)	Permanent Impacts (Acres)	Project Site Total (Acres)
Forest and Woodland Alliances					
Arroyo Willow Association	*Salix lasiolepis*	SALLAS	—	0.02	5.81
Arroyo Willow/ Mulefat Association	*Baccharis salicifolia*	SALLAS / BASCAL	0.0	0.10	2.60
Black Willow Association	*Salix gooddingii*	SALGOO	<0.01	0.04	2.51

Table 6. Direct Impacts to Vegetation Communities and Land Cover Types on the Project Site

Vegetation Community	Scientific Name	Vegetation Community Code	Temporary Impacts (Restoration) (Acres)	Permanent Impacts (Acres)	Project Site Total (Acres)
Black Willow Thickets	*Salix gooddingii*	BWT	—	<0.01	3.52
Black Willow/ Mulefat	*Salix gooddingii/ Baccharis salicifolia*	SALGOO / BACSAL	—	0.15	3.42
Blue Elderberry/ Toyon Association	*Sambucus nigra* sp. *caerulea/Heteromeles arbutifolia*	SAMNIG / HETARB	—	0.02	4.94
California Sycamore/Coast Live Oak Association*	*Platanus racemosa/ Quercus agrifolia*	PLARAC / QUEGAR	<0.01	<0.01	3.88
Eucalyptus Groves	*Eucalyptus* sp.	EG	—	--	1.47
Mulefat Thickets	*Baccharis salicifolia*	MFT	—	0.09	18.31
Mulefat/ Blue Elderberry	*Baccharis salicifolia/Sambucus nigra* sp. *caerulea*	BACSAL / SAMNIG	—	<0.01	29.35
Mulefat / Menzies's goldenbush / Quailbush Association	*Baccharis salicifolia/Isocoma menziesii/Atriplex lentiformis*	BACSAL / ISOMEN / ATRLEN	—	0.15	7.20
White Alder / California Sycamore Association*	*Alnus rhombifolia / Platanus racemosa*	ALRHO / PLARAC	—	0.02	0.02
Subtotal of Forest and Woodland Alliances and Stands			*<0.01*	*0.6*	*83.15*
Shrubland and Grassland Alliances					
Alkali heath / Salt grass Association	*Frankenia salina / Distichlis spicata*	FRASAL / DISSPI	<0.01	0.15	0.15
American Bulrush Marsh*	*Schoenoplectus americanus*)	ABM	--	—	0.64
Black Mustard / Ripgut Brome Association	*Brassica nigra / Bromus diandrus*	BM / RB	—	--	1.19
California brittlebush / California sagebrush / Black Sage / Coyote brush Association	*Encelia californica / Artemisia californica / Salvia mellifera / Baccharis pilularis*	ENCCAL / ARTCAL / SALMEL / BACPIL	—	--	12.38
Cattail Marshes	*Typha*	CM	—	--	0
Coyote Brush Scrub	*Baccharis pilularis*	CYS	—	--	15.78

Table 6. Direct Impacts to Vegetation Communities and Land Cover Types on the Project Site

Vegetation Community	Scientific Name	Vegetation Community Code	Temporary Impacts (Restoration) (Acres)	Permanent Impacts (Acres)	Project Site Total (Acres)
Coyote Brush / California Sagebrush Association	*Baccharis pilularis / Artemisia californica*	BACPIL / ARTCAL	<0.01	--	1.45
Ice Plant Mats	*Carpobrotus edulis*	IPM	--	--	2.07
Menzies's Goldenbush Scrub*	*Isocoma menziesii*	MGBS	--	0.03	2.91
Pickleweed Mats*	*Salicornia*	PM	<0.01	0.12	1.72
Poison Hemlock / Fennel Patches	*Conium maculatum / Foeniculum vulgare*	PH / FP	—	0.01	0.11
Quailbush Scrub	*Atriplex lentiformis*	QS	—	0.05	1.95
Saltgrass / Pacific Swampfire Association	*Distichlis spicata / Sarcocornia pacifica*	DISSPI / SARPAC	--	0.39	15.35
Smartweed / Cocklebur Patches	*Persicaria / Xanthium strumarium*	S/CP	—	0.04	0.61
Tarplant fields*	*Centromadia parryi* sp. *australis*	TPF	—	0.03	0.50
Upland mustards	*Hirschfeldia incana*	UM	—	--	21.46
Subtotal of Shrubland and Grassland Alliances			*<0.01*	*0.82*	*78.24*
Non-Natural Land Covers and Unvegetated Communities					
Fivehook Bassia	*Bassia hyssopifolia*	BASSIA	--	0.01	1.62
Myoporum / Black Willow	*Myoporum* sp. / *Salix gooddingii*	MP / SALGOO	--	0.01	3.08
Concrete Channel	—	CC	--	--	0.77
Disturbed Habitat	—	DH	0.15	2.99	16.05
Open Water	—	OW	--	--	3.23
Parks and Ornamental Plantings	—	ORN	--	--	3.67
Urban/Developed	—	DEV	<0.001	0.27	2.23
	Subtotal of Non-Natural Land Covers and Unvegetated Communities		*0.15*	*3.28*	*30.65*
		Total**	**0.15**	**4.7**	**192.03**

Notes:

* Ranked as a Sensitive Vegetation Community (S1-3) by CDFW. **Totals may not sum due to rounding.

5.5.2 Indirect Impacts

Construction-related indirect impacts may include temporary construction access and staging, as well as inadvertent spillover impacts outside of the construction footprint related to, chemical spills, stormwater erosion and sedimentation, and increased wildfire risk. Additionally, non-native seed may be introduced during construction from off-site vehicles and equipment entering the site. To reduce fugitive dust resulting from project construction and to minimize adverse air quality impacts, the project would employ dust control measures in accordance with the Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction (PDF BIO-1 and BIO-3). Implementation of BMP's and a SWPPP would also limit the potential for inadvertent spillover outside of the construction footprint.

5.6 Impacts to Jurisdictional Wetlands and Waters

5.6.1 Direct Impacts

ACOE and RWQCB

As currently designed, the proposed project includes the restoration of the project site for a public park facility with mixed uses. Proposed restoration treatments to South South Talbertconsist of trail improvements that may impact an unnamed riparian streambed as well as a forested wetland (black willow thickets). Further proposed trail improvements to South South Talbert will impact forested wetlands consisting of mulefat thickets, arroyo willow and black willow, as well as salt marsh habitats including pickleweed mats and smartweed-cocklebur patches. Figures 8 and 9, Impacts to Aquatic Resources, depict impacts to waters of the U.S. and state (ACOE and RWQCB) and impacts to CDFW/CCC jurisdictional riparian habitats. Table 5 summarizes impacts to jurisdictional waters as a result of construction of the proposed project.

Permanent impacts from trails will impact an estimated 0.37 acres of wetland and non-wetland waters. No temporary impacts to potentially jurisdictional waters are anticipated.

CDFW and CCC

The project site boundary contains a total of 32.02 acres of wetland and non-wetland waters potentially subject to CDFW and CCC jurisdiction. Existing wetland waters consist of 28.33 acres of forested wetland and salt marsh habitat, and non-wetland waters consist of 4.05 acres of Victoria Pond, riparian streambed and unvegetated streambed within the project site (Figure 6). The proposed South Talbertinfrastructure improvements related to trail system improvements and wayfinding signage will result in a total of approximately 0.51 acres of impacts to CDFW and CCC jurisdictional waters (Figure 9).

Victoria Pond, the unnamed drainage, and the concrete lined channel on-site are considered non-wetland waters under CDFW and CCC jurisdiction, and five of the seven wetlands mapped on the study area (Wetland 1, 2, 4, 5, and 6) are considered wetland waters under CDFW and CCC jurisdiction. Direct impacts to the unnamed drainage and Wetlands 2, 4, 5, and 6 will result from implementation of the proposed project, specifically vegetation clearing, grading, and excavation for trails. No project-related impacts will occur to Victoria Pond or Wetland 1.

The calculated impacts to jurisdictional waters on the project site are summarized in Table 5 below.

Table 7. Summary of Direct Impacts to Jurisdictional Aquatic Resources on the Project Site

Feature Name	Total Project Site (acres)	Temporary Impacts (Restoration) (acres/linear feet)	Permanent Impacts (acres/linear feet)
Waters of the United States and State (ACOE/RWQCB)			
Non-Wetland Waters			
Concrete Lined Channel	0.05	--	--
Unnamed Ephemeral Drainage	0.15	--	<0.01/103
Victoria Pond	2.82	--	--
Wetland Waters			
Wetland 1	2.98	--	--
Wetland 2	17.02	--	0.37/2,793
Waters of the United States and State (ACOE/RWQCB) Total*	**24.19**	**--/--**	**0.37/2,896**
CDFW/CCC Jurisdictional Waters			
Unvegetated Streambed (Concrete Lined Channel)	1.23	--	--/--
Riparian Streambed (Unnamed Drainage)	0.23	--	<0.01/103
Victoria Pond (Freshwater)	2.82	--/--	--/--
Wetland 1 (Forested Wetland)	2.89	--/--	--/--
Wetland 2 (Salt Marsh)	14.15	--	0.31/1,835
Wetland 4 (Salt Marsh)	0.30	--	<0.01/314
Wetland 5 (Forested Wetland)	7.65	--	0.13/2,586
Wetland 6 (Forested Wetland)	2.75	--	0.06/998
CDFW/CCC Jurisdiction Total*	**32.02**	**--/--**	**0.87/8,835**

Notes: ACOE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; OHWM = ordinary high-water mark; CDFW = California Department of Fish and Wildlife

* Totals may not sum due to rounding.

5.6.2 Indirect Impacts

The project is proposing to avoid 23.82 acres of ACOE/RWQCB jurisdictional waters and 31.15 acres of CDFW/CCC jurisdictional waters mapped on the project site. However, construction-related indirect impacts may include inadvertent spillover impacts outside of the construction footprint, chemical spills, and stormwater erosion and sedimentation. These spills may drain into potentially regulated waters on and immediately adjacent to proposed impact areas within the project boundary during construction. These potential short-term or temporary indirect impacts to jurisdictional aquatic resources would be avoided through implementation of applicant proposed PDFs (Section 5.2).

5.7 Impacts to Wildlife Corridors and Habitat Linkages

5.7.1 Direct Impacts

The project site occurs within the boundaries of the Central/Coastal Subarea Plan of the Orange County Natural Community Conservation Plan/Habitat Conservation Plan (OC NCCP/HCP) and is mapped within a designated habitat reserve system (Talbert Regional Park) (Figure 3). However, the project site is not mapped as a wildlife corridor or habitat linkage for the OC NCCP/HCP. Regardless, the project site does function as a corridor for the movement of local wildlife in the area, particularly for small to medium sized mammals and birds traveling through Costa Mesa and along the Santa Ana River towards the Pacific Ocean. The riparian woodlands, Victoria Pond, and native scrub habitats within the project site provide ecologically valuable opportunities for wildlife movement through the local area. Resident and migratory birds, fish, and small-to medium-sized mammals may use portions of the project site to move along the Santa Ana River south towards the Pacific Ocean. Wildlife species may also locally migrate to Victoria Pond to nest and forage. Therefore, the project site is considered a regionally significant wildlife corridor.

The proposed project includes on-site restoration efforts, including invasive plant species removal, that would ultimately improve wildlife movement and habitat connectivity within the project site (Talbert Regional Park) to surrounding regions including Fairview Park, Randall Preserve, Santa Ana River, and the Pacific Ocean. Additionally, the project is not proposing to construct any buildings or structures that would impede the continued use of wildlife movement through the project site. Therefore, there will be no long-term direct impacts to wildlife corridors or linkages through project implementation.

However, there may be temporary displacement of wildlife migrating through the project site during construction due to the increase in human presence and construction equipment, as well as removal of habitat and impacts to regulated waters that facilitate wildlife movement. Due to the relatively limited construction requirements for the project these temporary direct impacts will be minimal.

5.7.2 Indirect Impacts

Some short-term indirect impacts to localized wildlife movement could occur due to construction-related noise and work in the vicinity. However, these impacts would be temporary and would not be expected to significantly disrupt wildlife movement due to existing ambient noise conditions and the ability for wildlife to continue to move around the construction area and upland portions of the project site during and after construction. Additionally, work activities are not currently proposed during the nighttime which could impact opportunities for movement by nocturnal animals through the site.

Lastly, the project would not create a barrier or cause a physical impediment to wildlife movement or corridors and there are ample opportunities for wildlife to continue to move throughout the area both within the Santa Ana River and in surrounding coastal areas. Therefore, there will be no indirect impacts to wildlife corridors or linkages.

5.8 Impacts Associated with Local Policies and Ordinances

As currently designed, the proposed project would be constructed within the least environmentally sensitive location feasible from a native vegetation, jurisdictional waters, and special-status species standpoint. Section 7-9.69 of the County of Orange Zoning Code: tree protection ordinance, protects trees native to Orange County, and only applies to unincorporated areas. In addition, County of Orange tree policy ordinances are not applicable to trees owned by the County, such as those owned by OC Parks within the Talbert Regional Park system. As the project site lies within an incorporated County of Orange, within Talbert Regional Park and owned by Orange County Parks, these ordinances do not apply. Additionally, the City of Costa Mesa does not have any tree protection ordinances, but the project would adhere to the goals and policies of the County of Orange and City of Costa Mesa General Plans as they pertain to biological resources protection. Therefore, the project will result in no direct or indirect impacts to local policies and ordinances.

5.9 Impacts Associated with Habitat Conservation Plans

The project occurs within the boundaries of the Central Coastal subregion of the Orange County Natural Community Conservation Plan / Habitat Conservation Plan (OC NCCP/HCP), and therefore the project is required to demonstrate consistency with the goals and objectives of the NCCP/HCP as it pertains to biological resources (Figure 3). While the City of Costa Mesa is not in an enrollment agreement with OC NCCP/HCP, the project applicant, county of Orange (OC Parks), is a signatory to the implementing agreement. As such, the project is required to evaluate the potential impacts to NCCP/HCP covered species and resources. Take authorization of covered species is granted for this project through OC Park's participation in the NCCP/HCP, and any impacts to covered sensitive natural communities would be covered, if consistent with allowed uses within the Reserve. Impacts to covered species and associated habitats would be covered under the terms of the USFWS Section 10(a)(1)(B) permit and CDFW Management Authorization granted to the local government with the jurisdiction over the proposed activity for Participating Landowners. Impacts to species or sensitive communities not covered under the OC NCCP/HCP would be considered significant and would require additional approvals pursuant to the FESA, CESA, and Natural Community Conservation Planning Act.

The project site provides suitable habitat for OC NCCP/HCP covered species including coyote, red-shouldered hawk, prairie falcon, least Bell's vireo, burrowing owl, coastal California gnatcatcher, and Coulter's Matilija poppy. Specific covered habitats within the project site include coastal sage scrub vegetation communities (California brittlebush / California sagebrush / Black Sage / Coyote brush Association, Coyote Brush Scrub, and Coyote Brush / California Sagebrush Association).

Construction of the proposed project will result in direct impacts to coastal sage scrub communities covered by the Central/Coastal Subregion of the OC NCCP/HCP which provide suitable habitat for NCCP/HCP covered species observed on site including coyote, red-shouldered hawk, coastal California gnatcatcher, and Coulter's Matilija poppy, and conditionally covered least Bell's vireo. Southwestern willow flycatcher (also an OC NCCP/HCP covered species) was not observed on site during focused surveys, therefore this covered species is considered absent from the project site, and no direct or indirect impacts would occur.

Impacts to natural vegetation communities including coastal sage scrub covered under the Central/Coastal Subarea Plan of the OC NCCP/HCP would occur as a result of implementing proposed staging areas as well as pond, wetland, and trail improvements throughout the project site.

No other NCCP/HCP covered biological resources will be directly impacted by the project and therefore, there will be no direct impact. Additionally, the loss of native vegetation on the project site will be offset through on-site habitat restoration in accordance with PDF-BIO-6. With concurrence from the Wildlife Agencies that the proposed Restoration Plan ensures maintenance of covered species and habitat function within the Reserve, no direct impacts to habitat conservation plans will occur.

6 Significant Impacts and Mitigation

6.1 Explanation of Findings of Significance

Impacts to special-status vegetation communities, plant and wildlife species, and jurisdictional waters, including wetlands, must be quantified and analyzed to determine whether such impacts are significant under CEQA. CEQA Guidelines Section 15064(b) states that an ironclad definition of "significant" effect is not possible, because the significance of an activity may vary with the setting. Appendix G of the CEQA Guidelines, however, does provide "examples of consequences which may be deemed to be a significant effect on the environment" (14 CCR 15064[e]). These effects include substantial effects on rare or endangered species of animal or plant or the habitat of the species. CEQA Guidelines Section 15065(a) is also helpful in defining whether a project may have a significant effect on the environment. Under that section, a proposed project may have a significant effect on the environment if the project has the potential to (1) substantially degrade the quality of the environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, (5) reduce the number or restrict the range of a rare or endangered plant or animal, or (6) eliminate important examples of a major period of California history or prehistory.

The following are the significance thresholds for biological resources provided in the CEQA Guidelines Appendix G Environmental Checklist, which states that a project would potentially have a significant effect if it does any of the following:

- Impact BIO-1. Has a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
- Impact BIO-2. Has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Impact BIO-3. Has a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Impact BIO-4. Interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites.
- Impact BIO-5. Conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Impact BIO-6. Conflicts with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

The evaluation of whether an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to, or result in, permanent loss of an important resource, such as a population of a rare plant or wildlife species. Impacts may be important locally, because they result in an adverse alteration of existing site conditions but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact is the primary determinant of whether that impact can be mitigated to a level below significance.

The following significance determinations were made based on the impacts of the proposed project.

6.1.1 Impact BIO-1: Special-Status Species

6.1.1.1 Special-Status Plants

Vegetation clearing and grading for the trail improvements on the project site may result in significant direct impacts to two rare plants, southern tarplant (CRPR 1B.1) and San Diego marsh-elder (CRPR 2.2). These species are not covered under the Central-Coastal Subarea Plan of the OC NCCP/HCP and as such, project-related impacts to these species would be considered significant. To offset the loss of southern tarplant, Mitigation Measure **(MM) BIO-1** would be implemented in order to reduce direct impacts to special-status plants to **less than significant with mitigation**.

MM BIO-1 Rare Plant Restoration. In order to replace individual southern tarplant populations on the project site, restoration activities as part of the project shall revegetate the site with both species at a minimum 1:1 ratio. For southern tarplant, the 1:1 ratio shall be calculated based on area occupied by the species. Revegetation can either be accomplished through seeding restoration areas with a native seed mix containing both species and/or planting container plants. Prior to project impacts, existing populations of both species that are proposed to be impacted will be identified and counted to determine the amount of seed or container plants needed and suitable area for plant establishment. The methods and quantity of the restoration effort for these two species will be included in the Restoration Plan for the project. The Restoration Plan shall include monitoring and maintenance procedures, performance standards to ensure self-sustaining populations have been established, and adaptive management/remedial measures if restoration is not successful.

Impacts to southern tarplant are much more extensive and occur with trail improvements throughout the site. Since this species' preferred habitat is disturbed areas, such as the edge of existing trails, a concerted effort will need to be made to identify locations within the project site that are suitable for seeding with southern tarplant. To the extent that southern tarplant re-established in areas adjacent to improved trails following construction, these areas can be counted towards the 1:1 mitigation ratio.

6.1.1.2 Special-Status Wildlife

Construction of the proposed project may result in significant direct impacts to 14 special-status wildlife species that are considered present on-site: burrowing owl, coastal California gnatcatcher, least Bell's vireo, Cooper's hawk, white-tailed kite, prairie falcon, white-faced ibis, double-breasted cormorant, California gull, Costa's hummingbird, rufous hummingbird, osprey, yellow warbler, and yellow breasted chat. Project-related impacts to these species may occur during vegetation clearing and grading for key improvements and infrastructure improvements particularly during the general avian nesting season of February through August. Coastal California gnatcatcher, least Bell's vireo, and prairie falcon are covered species under the OC NCCP/HCP and therefore, with successful implementation of PDF BIO-6 (i.e., Resource Agency confirmed compliance with the OC NCCP/HCP), impacts to these species are less than significant.

Burrowing owl was incidentally observed near the western boundary of South Talbert Talbert during the jurisdictional delineation survey in 2020, just outside the project site boundary, but was not observed during any of the focused surveys for burrowing owl in 2020 and 2025. However, due to the continued presence of suitable habitat on the project site there is a potential for burrowing owl to move onto the project site in the future. Therefore, if this species

is found on site prior to the start of construction the project may result in a significant direct impact to burrowing owl during grading and vegetation clearing, particularly if the project occurs during the species' breeding season. Project implementation of Mitigation Measure **MM BIO-2** will reduce potential impacts to burrowing owl to **less than significant with mitigation.**

MM BIO-2 Burrowing Owl Pre-Construction Surveys. Prior to the start of grading and vegetation clearing activities within suitable habitat areas on the project site, a pre-construction clearance survey for burrowing owl shall be conducted according to survey protocol outlined in the 2012 CDFW Staff Report on Burrowing Owl Mitigation. A minimum of two surveys will be conducted within 14 days prior to the start of the project and another within 24 hours of initiating ground-disturbing activities. If burrowing owl is found on site additional avoidance and mitigation measures will be required. If burrowing owl occurs in an area that cannot be avoided by the project, additional land conservation and/or relocation may be required, which will be determined through consultation with CDFW.

Cooper's hawk, white-tailed kite, prairie falcon, white-faced ibis, double-breasted cormorant, California gull, Costa's hummingbird, rufous hummingbird, osprey, yellow warbler, and yellow breasted chat are all protected species by the MBTA and CFG Code. Project-related direct and indirect impacts may occur to these species during vegetation clearing and grading activities that commence during the general avian breeding season of February through August. Therefore, direct and indirect impacts to these species would be considered significant. Project implementation of Mitigation Measure **MM BIO-3** would reduce potential project-related impacts to these seven special-status species to **less than significant with mitigation**.

MM-BIO-3 Pre-Construction Surveys for Special-Status Species. One pre-construction clearance survey shall be conducted no more than 14 days prior to initiation of site preparation and grading activities. A qualified biologist shall walk the entire survey area to determine if any special-status wildlife are observed or detected. Additional measures may be required for observed species on site, such as establishing a buffer around known locations and/or conducting monitoring during construction near occupied areas to ensure no project activities result in loss of an active nest and incidental take does not occur.

Besides the special-status wildlife species mentioned above, the project site provides suitable nesting habitat for a number of bird species known to occur in the region that are protected by the MBTA and CFG Code. These species may be directly and indirectly impacted during vegetation clearing activities that commence during the general nesting season of February through August. Project-related impacts to protected bird species and their nests are considered significant and require mitigation. Project implementation of Mitigation Measure **MM BIO-4** will reduce potential impacts to nesting birds to **less than significant with mitigation**.

MM-BIO-4 Pre-Construction Nesting Bird Surveys and Avoidance. Vegetation clearing and grading activities shall avoid the migratory bird nesting season (typically February 1 through August 31) to reduce any potential significant impacts to birds that may be nesting in the project site, including yellow warbler, yellow-breasted chat, Cooper's hawk, least Bell's vireo, coastal California gnatcatcher, burrowing owl, California gull, white-faced ibis, double-breasted cormorant, Costa's hummingbird, rufous hummingbird, osprey, prairie falcon, and white-tailed kite. To maintain compliance with the Migratory Bird Treaty Act and California Fish and Game Code, if ground-disturbing and/or vegetation clearance activities are scheduled to occur during the avian nesting season, a pre-construction nesting bird survey shall be conducted by a qualified biologist within the

project impact footprint and a 500-foot buffer where legal access is granted around the disturbance footprint to determine the presence or absence of protected migratory birds and active nests. Surveys shall be conducted within 3 days prior to initiation of activity in accordance with the MBTA (16 USC 703-712) and CFG Code Sections 3503, 3503.5, and 3513.

If an active nest is detected during the nesting bird survey, the nest shall be flagged and mapped on the construction plan, along with appropriate avoidance buffers established around the nest as determined by a qualified biologist based on the species sensitivity to disturbance (typically 300 feet for passerines and 500 feet for raptors and special-status species). The buffer shall be of a distance to ensure avoidance of adverse effects to the nesting bird by accounting for topography, ambient conditions, species, nest location, and activity type. All nests shall be monitored as determined by the qualified biologist until nestlings have fledged and dispersed, or it is confirmed that the nest has been unsuccessful or abandoned. The qualified biologist shall halt all construction activities within proximity to an active nest if it is determined that the activities are harassing the nest and may result in nest abandonment or take. The qualified biologist shall also have the authority to require implementation of avoidance measures related to noise, vibration, or light pollution if indirect impacts are resulting in harassment of the nest. No project activities shall encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that the nestlings have fledged, and the nest is no longer active.

6.1.2 Impact BIO-2: Sensitive Vegetation Communities

The proposed project will permanently impact five of the seven sensitive vegetation communities observed throughout the project site: American bulrush marsh, California sycamore-coast live oak, Menzies's goldenbush scrub, pickleweed mats, and tar plant fields (Figure 7). The project would result in direct and permanent impacts to 0.61 acres of vegetation communities and land cover types that are considered sensitive by CDFW, which is considered a significant impact. As such, project-related impacts to these communities would require mitigation or on-site habitat restoration to pre-project conditions to comply with CEQA and the NCCP/HCP. Implementation of Mitigation Measure **MM BIO-5** would reduce impacts to sensitive vegetation communities to **less than significant with mitigation**.

MM BIO-5 Restoration of Sensitive Natural Communities. The proposed project will restore and enhance native habitat communities on the project site to a level greater than what currently exists on the project site. The 0.61 acre of impacted sensitive natural communities will be restored at a minimum 1:1 ratio through planned restoration activities as part of the project. The project's Restoration Plan will detail the location and amount of restoration proposed to offset project-related impacts to sensitive natural communities.

Project-related impacts to native habitats not considered sensitive, or habitats covered under the OC NCCP/HCP such as coastal sage scrub, are not considered significant and do not require mitigation. However, the project will restore and enhance all native habitats on the project site as part of the project which will result in a net increase in habitat value for native and sensitive natural communities located on the project site.

6.1.3 Impact BIO-3: Jurisdictional Waters and Wetlands

The project site contains one feature considered non-wetland waters (ephemeral drainage), and one wetland feature (Wetland 2) potentially subject to ACOE and RWQCB jurisdiction that will be impacted by the project. Additionally, there is one non-wetland feature (ephemeral drainage) and four wetland features (Wetland 2, 4, 5, and 6) that are potentially subject to CDFW and CCC jurisdiction that may be impacted by the project. Total project-related impacts to ACOE/RWQCB jurisdiction include 0.37 acres (2,896 linear feet), which include approximately less than 0.01 acre (103 linear feet) of direct impacts to non-wetland waters of the U.S./State associated with an unnamed ephemeral drainage, and approximately 0.37 acres (2,793 linear feet) of direct impacts to wetland waters of the U.S./State. Additionally, total project-related direct impacts to CDFW/CCC jurisdiction include approximately less than 0.01 acre (103 linear feet) of non-wetland, and approximately 0.87 acres (8, 732 linear feet) of wetlands. Project-related impacts to federal and state regulated waters are considered significant and require mitigation to offset impacts. Therefore, project implementation of Mitigation Measure **MM BIO-6** will reduce project impacts to jurisdictional waters and wetlands to **less than significant with mitigation**.

MM BIO-6 Regulatory Waters Permitting. Direct impacts to jurisdictional waters shall be addressed through the regulatory application process to implement Section 401 and Section 404 of the Clean Water Act, the Porter-Cologne Water Quality Act, and Section 1602 of the California Fish and Game Code. Due to the amount of proposed project-related impacts to potentially jurisdictional aquatic resources it is anticipated that an Individual Permit from the ACOE will be required. An Individual Permit would also require compliance with 404(b)(1) Guidelines and mitigation to offset impacts and ensure no-net loss of wetlands and waters of the U.S. and State. Direct impacts to jurisdictional non-wetland waters shall be mitigated through either the on-site restoration of habitat or through the purchase of off-site mitigation credits. The applicant shall purchase credits through an agency-approved mitigation bank, in-lieu fee program, or other agreement. A minimum ratio of 3:1 for establishment or reestablishment credits shall be required for impacts to jurisdictional wetlands, as well as associated riparian habitat. However, the final mitigation ratio required shall be determined through consultation with the regulatory resource agencies during the permitting process. Finally, a standard Streambed Alteration Agreement shall be required from the CDFW for impacts to CDFW waters, as well as a Coastal Development Permit from the CCC.

6.1.4 Impact BIO-4: Wildlife Corridors and Nursery Sites

No significant direct or indirect permanent impacts would occur to wildlife movement or use of native wildlife nursery sites associated with project activities. Existing nearby habitat linkages and wildlife corridor functions would remain intact while construction activities are conducted and following project completion, particularly within the riparian areas that allow for local wildlife movement across the site. Construction activities would not likely result in permanent adverse impacts to wildlife movement because proposed restoration efforts are anticipated to improve habitat connectivity within the project site through increased hydrologic flow, vegetation clearing of invasive vegetation, and trail improvements. Riparian areas on site, specifically Victoria Pond and salt marsh habitats within South Talbert, may provide regional wildlife corridors and nesting areas for migratory birds and mammals. Coyote is the largest mammal that uses native habitats within the project site for local migration.

During construction activities, temporary disturbance to local species may occur, but would not substantially degrade the quality or use of the vegetation communities in the vicinity. Some indirect impacts to localized wildlife movement

could occur during construction activities due to construction-related noise. However, this impact would be temporary and would not be expected to significantly disrupt wildlife movement during and following construction activities.

Project-related long-term indirect impacts to wildlife corridors or habitat linkages would be less than significant as the opportunities for wildlife movement post project implementation would be improved from existing conditions after the project's restoration efforts are completed throughout the project site. Restoration and project improvements to Talbert Regional Park (the project site) would positively impact multiple riparian habitats on site from the clearing of invasive vegetation and improved tidal flow, which could allow increased wildlife movement locally through the area, particularly for species associated with salt marshes, riparian woodlands, and tidal wetlands.

Therefore, direct and indirect impacts on wildlife corridors and nursery sites resulting from the proposed project would be **less than significant**.

6.1.5 Impact BIO-5: Local Policies and Ordinances

The project site occurs within the County of Orange and the City of Costa Mesa and therefore would have to adhere to any County or City policies and municipal codes protecting biological resources, typically trees within the public right of way. After a review of County and City policies there are none that would apply to the protection of biological resources on the project site. Therefore, the project would result in no impacts to local policies or ordinances and no mitigation is required.

6.1.6 Impact BIO-6: Habitat Conservation Plan

The project site is located within the boundaries of the Central and Coastal Subregion Plan of the OC NCCP/HCP and the Applicant is a signatory to the NCCP/HCP, the project would receive take coverage for project-related impacts to covered species and vegetation communities. Take of covered species and vegetation communities is also authorized as a Planned Activity of recreational activities within the Reserve System. For special-status species and sensitive vegetation communities not fully covered under the OC NCCP/HCP, project impacts to these biological resources would be required to adhere to local, state, and federal policies/regulations. In addition, the project site is part of the reserve habitat system (Talbert Regional Park) within the Central Coastal Subregion Plan of the OC NCCP/HCP. Impacts to covered habitats would be reduced through on-site restoration or through the purchase of off-site mitigation credits. Additionally, because the Applicant is a Participating Landowner, Take is authorized without payment of the mitigation fee.

These measures are substantially consistent with construction-related minimization measures required for participating landowners under the OC NCCP/HCP. Table 8 demonstrates that consistent by aligning the OC NCCP/HCP measures with PDFs and mitigation measures discussed above.

Table 8. Compliance with OC NCCP/HCP Construction Related Minimization Measures

OC NCCP/HCP Measure	PDF or Mitigation Measure
1. To the maximum extent practicable, no grading of CSS habitat that is occupied by nesting gnatcatchers will occur during the breeding season (February 15 through July 15). It is expressly understood that this provision and the remaining provisions of these "construction-related minimization measures," are subject to public health and	MM-BIO-3, MM-BIO-4

Table 8. Compliance with OC NCCP/HCP Construction Related Minimization Measures

OC NCCP/HCP Measure	PDF or Mitigation Measure
safety considerations. These considerations include unexpected slope stabilization, erosion control measure and emergency facility repairs. In the event of such public health and safety circumstances, landowners or public agencies/utilities will provide USFWS/CDFW with the maximum practicable notice (or such notice as is specified in the NCCP/HCP) to allow for capture of gnatcatchers, cactus wrens and any other CSS Identified Species that are not otherwise flushed and will carry out the following' measures only to the extent as practicable in the context of the public health and safety considerations.	
2. Prior to the commencement of grading operations or other activities involving significant soil disturbance, all areas of CSS habitat to be avoided under the provisions of the NCCP/HCP, shall be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading operations or other activities involving disturbance of CSS, a survey will be conducted to locate gnatcatchers and cactus wrens within 100 feet of the outer extent of projected soil disturbance activities and the locations of any such species shall be clearly marked and identified on the construction/grading plans.	MM-BIO-5
3. A monitoring biologist, acceptable to USFWS/CDFG will be on site during any clearing of CSS. The landowner or relevant public agency/utility will advise USFWS/CDFW at least seven (7) calendar days (and preferably fourteen (14) calendar days) prior to the clearing of any habitat occupied by Identified Species to allow USFWS/CDFW to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist will flush Identified Species (avian or other mobile Identified Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If birds cannot be flushed, they will be captured in mist nets, if feasible, and relocated to areas of the site to be protected or to the NCCP/HCP Reserve System. It will be the responsibility of the monitoring biologist to assure that Identified bird species will not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis.	MM-BIO-3, MM-BIO-4
4. Following the completion of initial grading/earth movement activities, all areas of CSS habitat to be avoided by construction equipment and personnel will be marked with temporary fencing other appropriate markers clearly visible to construction personnel. No construction access, parking or storage of equipment or materials will be permitted within such marked areas.	MM-BIO-5, PDF-BIO-2
5. In areas bordering the NCCP Reserve System or Special Linkage/Special Management areas containing significant CSS identified in the NCCP/HCP for protection, vehicle transportation routes between cut-and-fill locations will be restricted to a minimum number during construction consistent with project construction requirements. Waste dirt or rubble will not be deposited on adjacent CSS identified in the NCCP/HCP for protection. Preconstruction meetings involving the monitoring biologist, construction supervisors and equipment operators will be conducted and documented to ensure maximum practicable adherence to these measures.	PDF-BIO-1, PDF-BIO-2
6. CSS identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas shall be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.	PDF-BIO-3

Therefore, project-related impacts to Habitat Conservation Plans will be considered **less than significant** and no mitigation is required.

7 References

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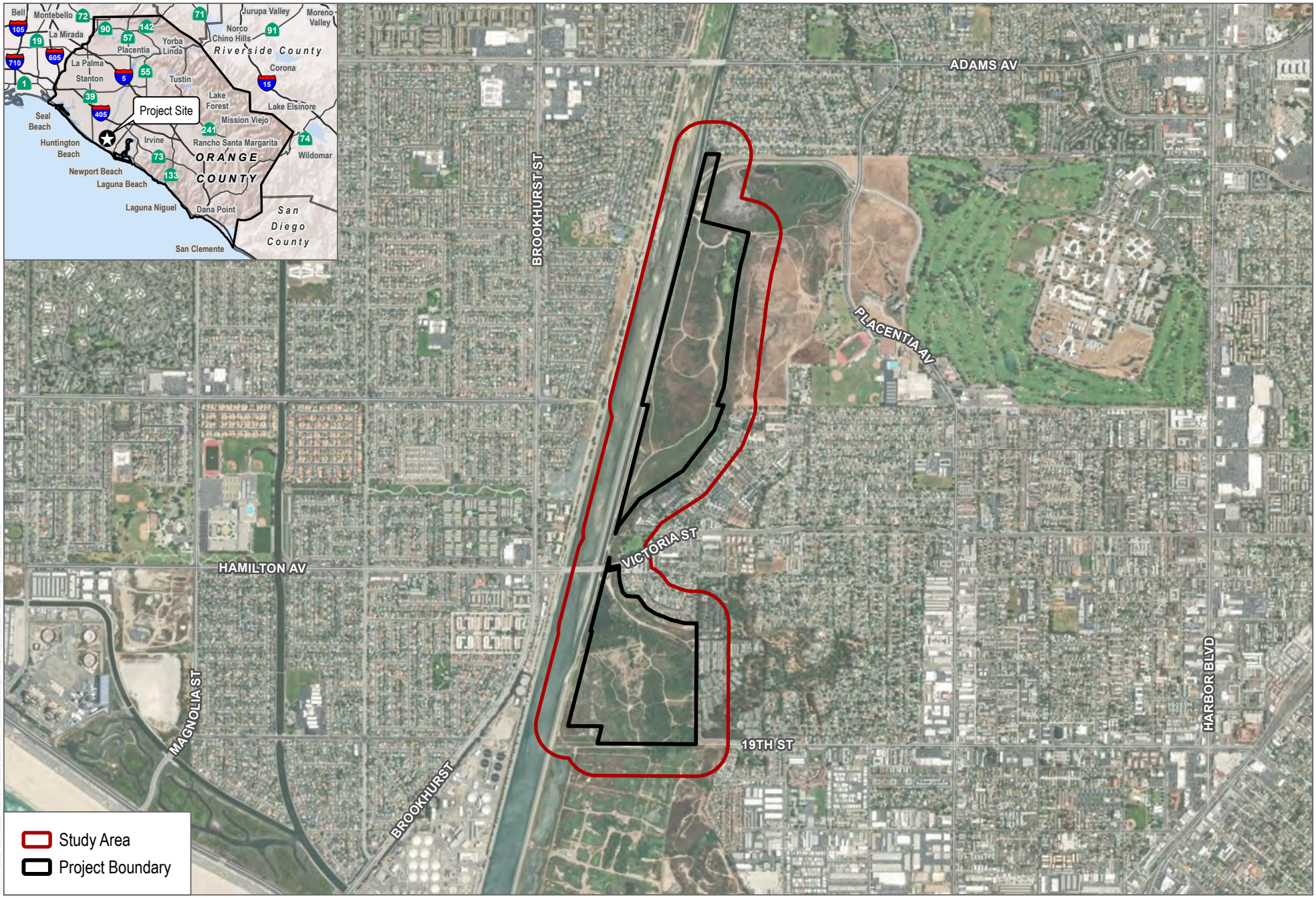

SOURCE: 2025

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FIGURE 1

Project Location

Talbert Regional Park

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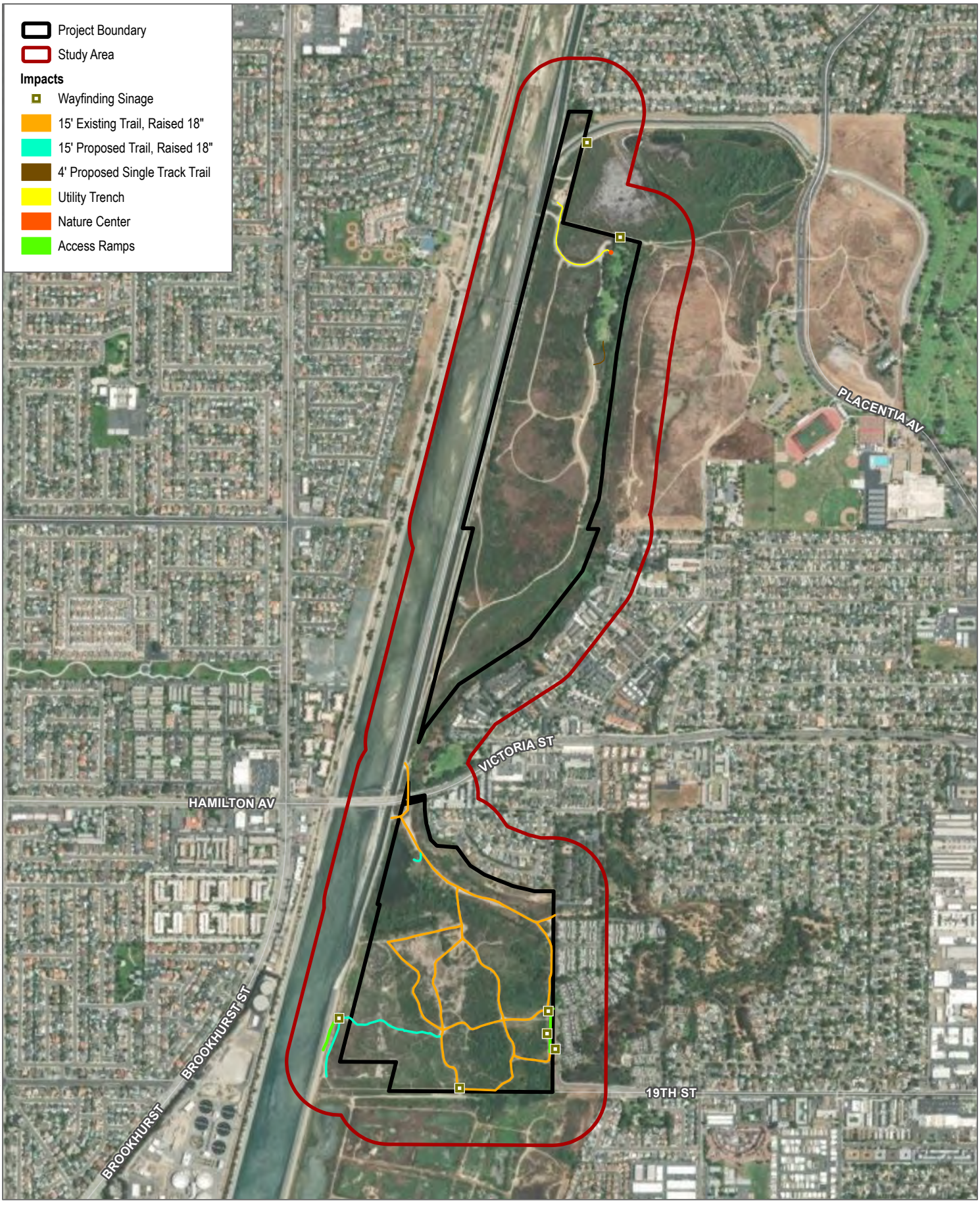

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FIGURE 2

Project Impacts

Talbert Regional Park

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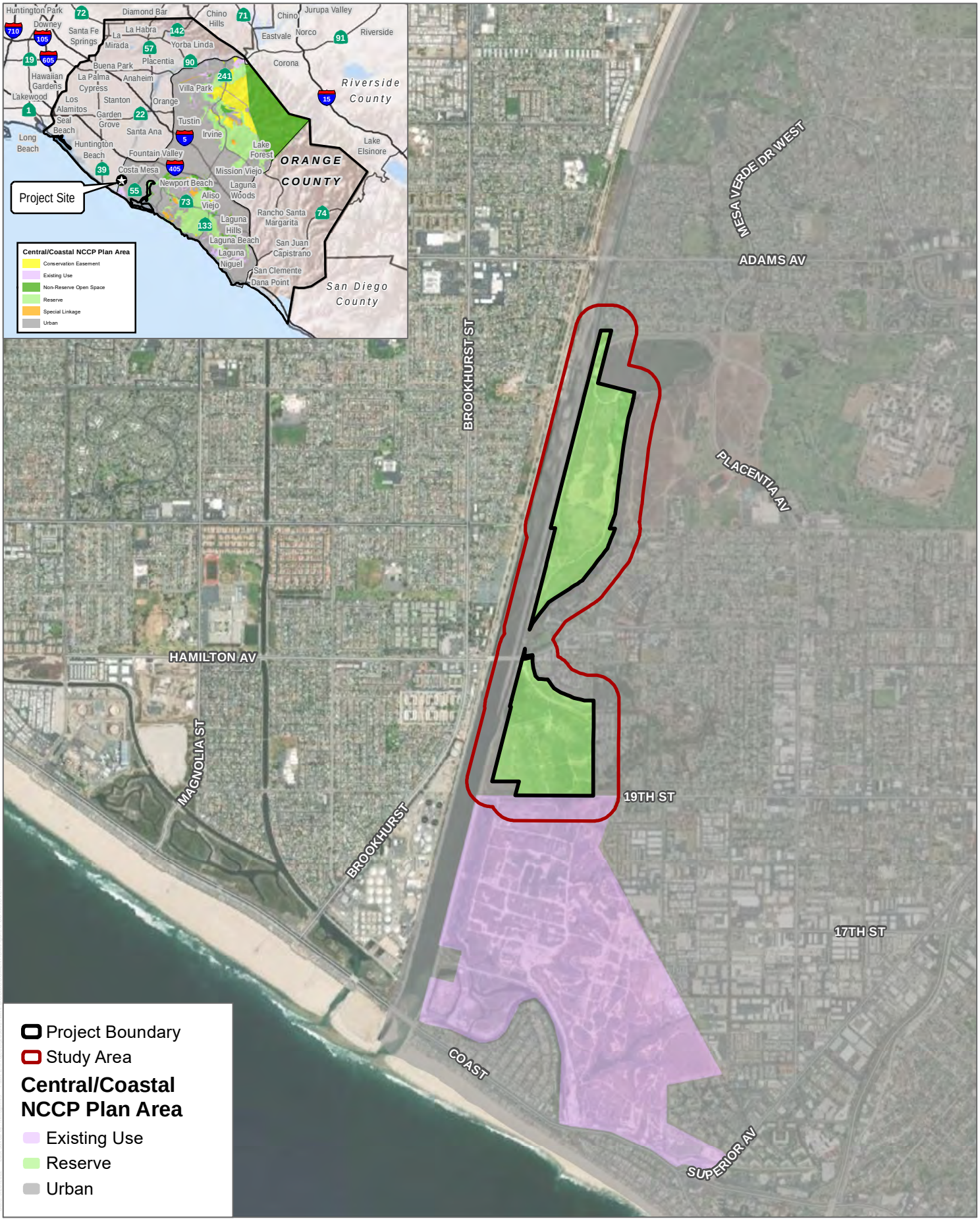

SOURCE: ESRI 2020; Central Coastal NCCP 1996

FIGURE 3

Central/Coastal Subarea Orange County NCCP/HCP Plan Area

Talbert Regional Park

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SOURCE: ESRI 2020

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FIGURE 4-1

Vegetation Communities and Land Covers

Talbert Regional Park

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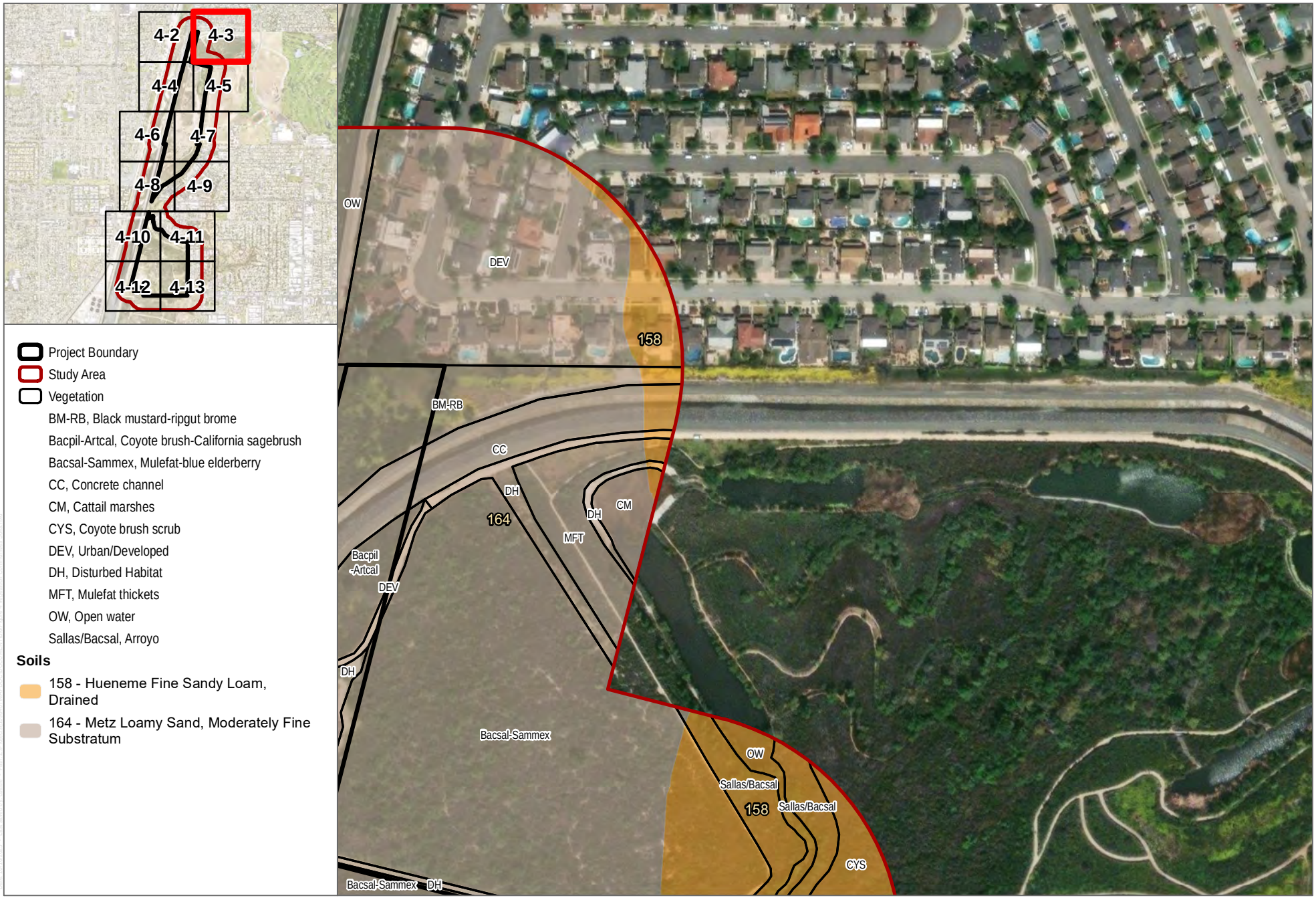

SOURCE: ESRI 2020

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FIGURE 4-2

Vegetation Communities and Land Covers

Talbert Regional Park

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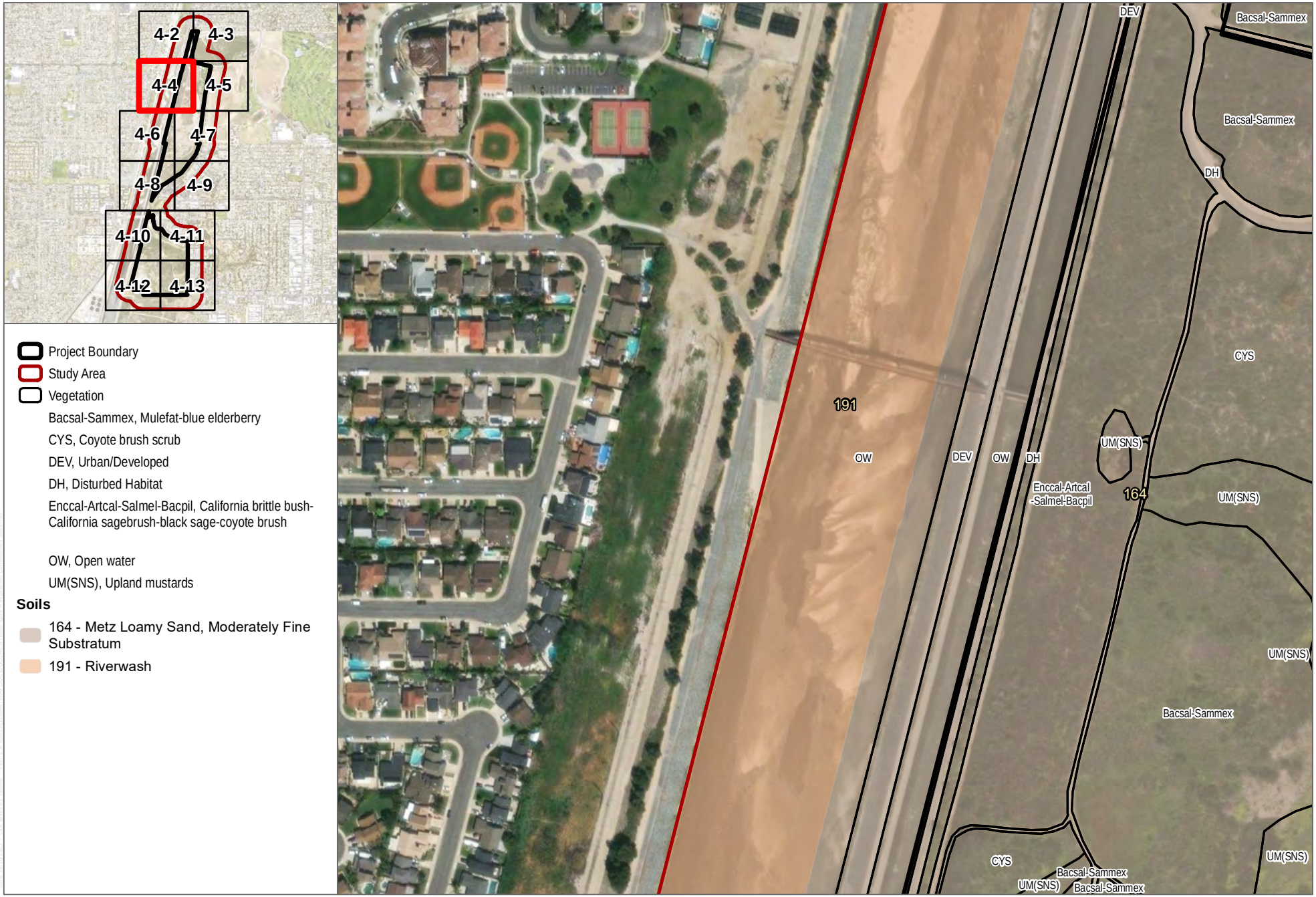

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FIGURE 4-3

Vegetation Communities and Land Covers

Talbert Regional Park

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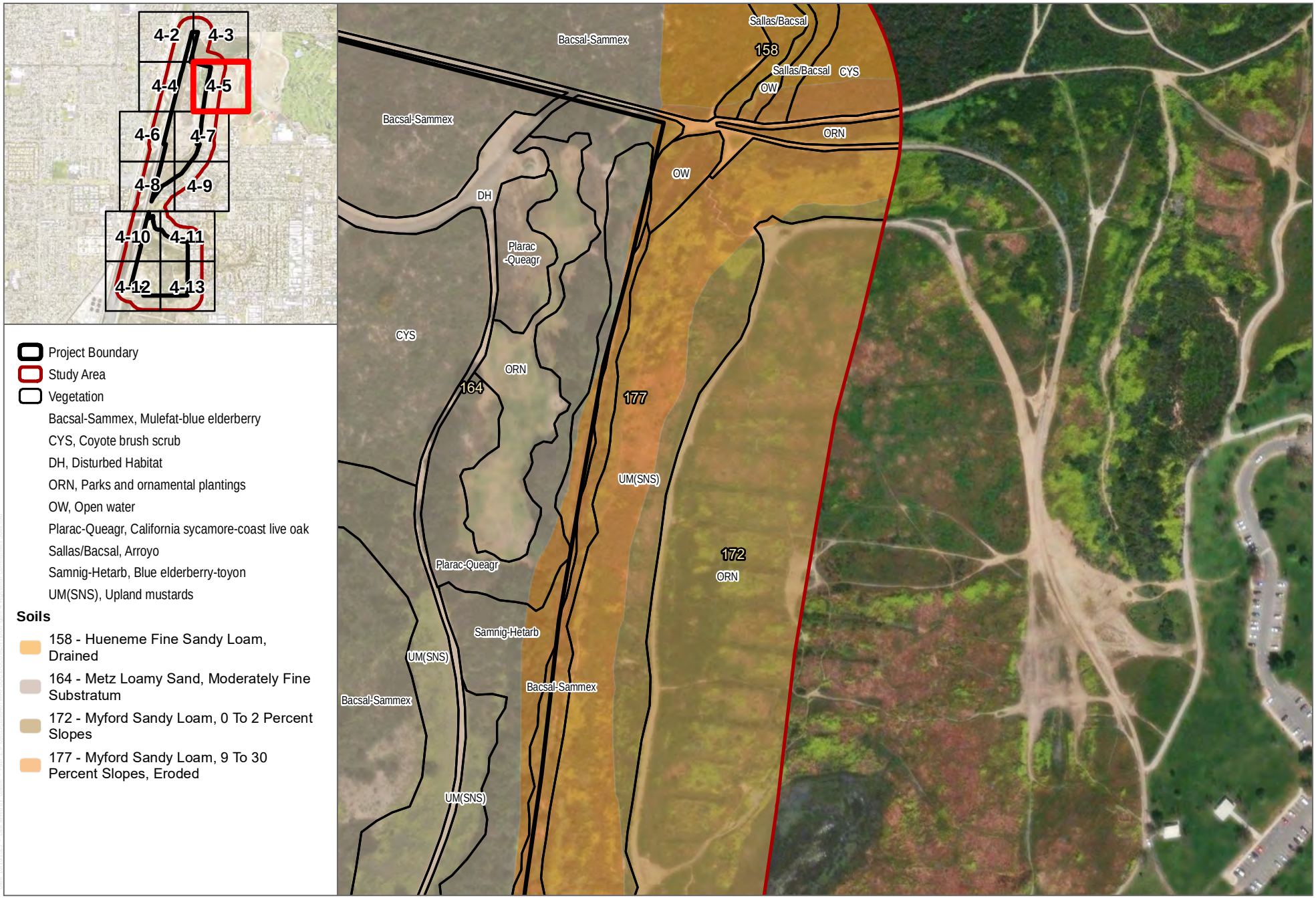

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FIGURE 4-4

Vegetation Communities and Land Covers

Talbert Regional Park

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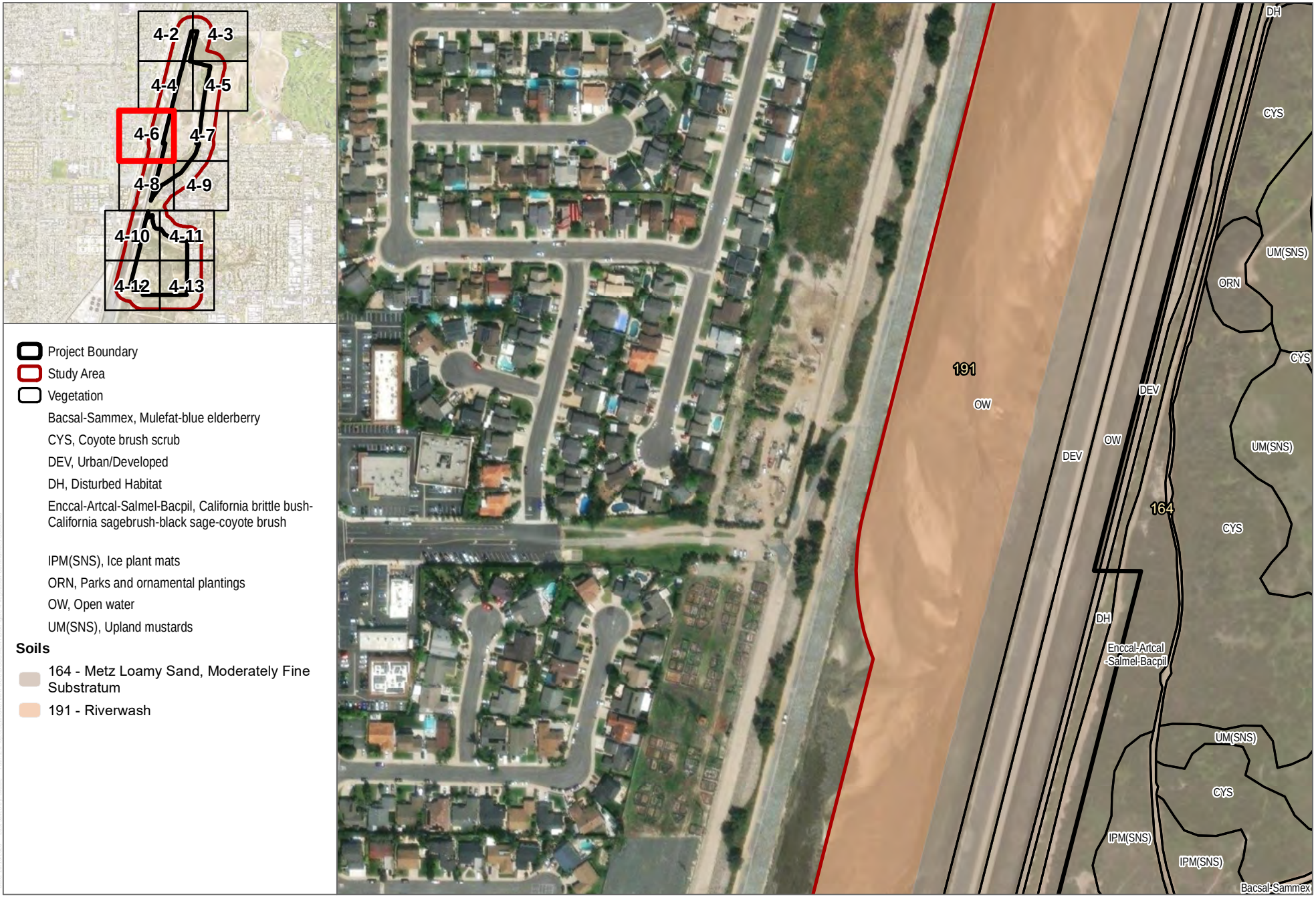

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FIGURE 4-5

Vegetation Communities and Land Covers

Talbert Regional Park

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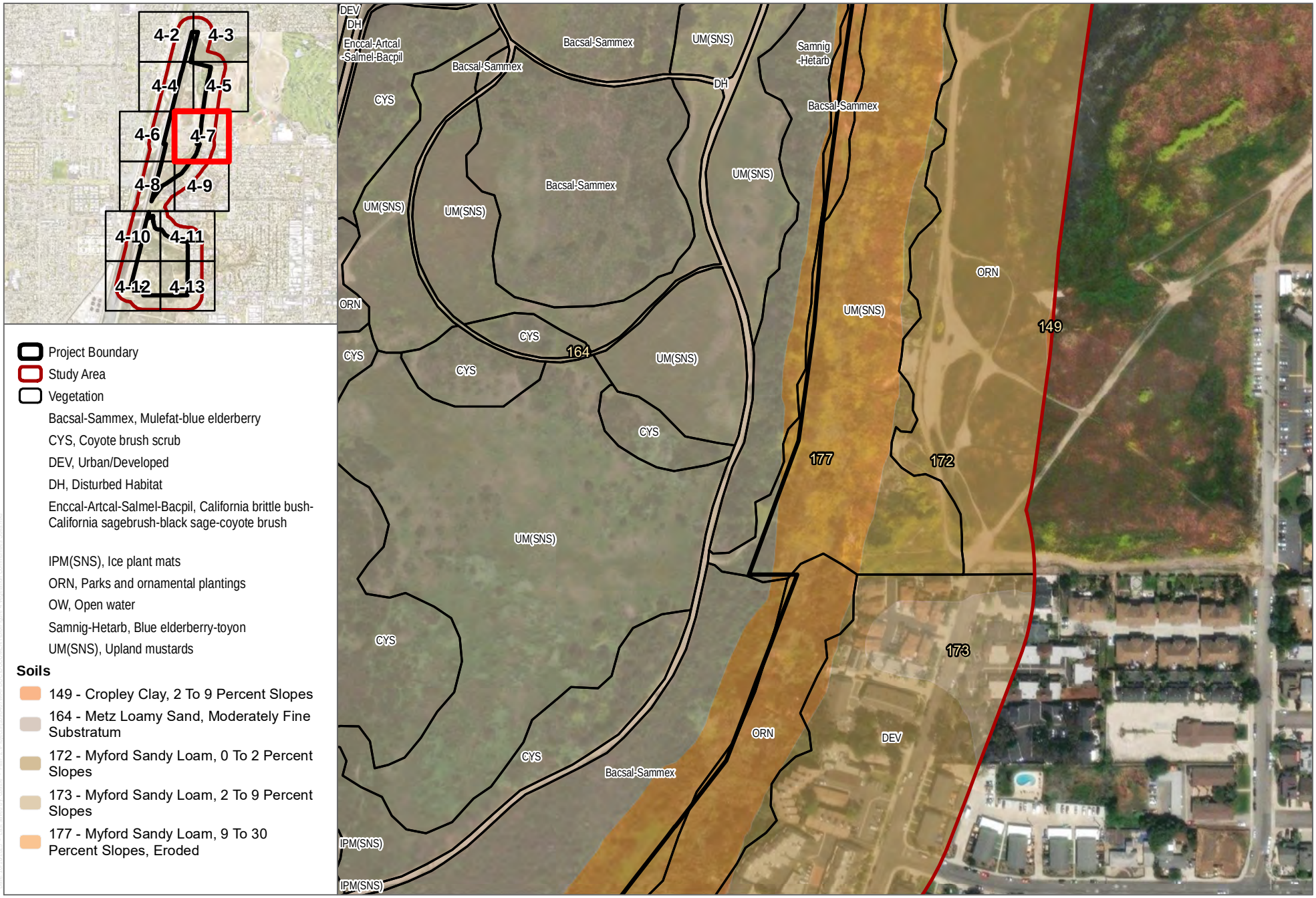

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FIGURE 4-6

Vegetation Communities and Land Covers

Talbert Regional Park

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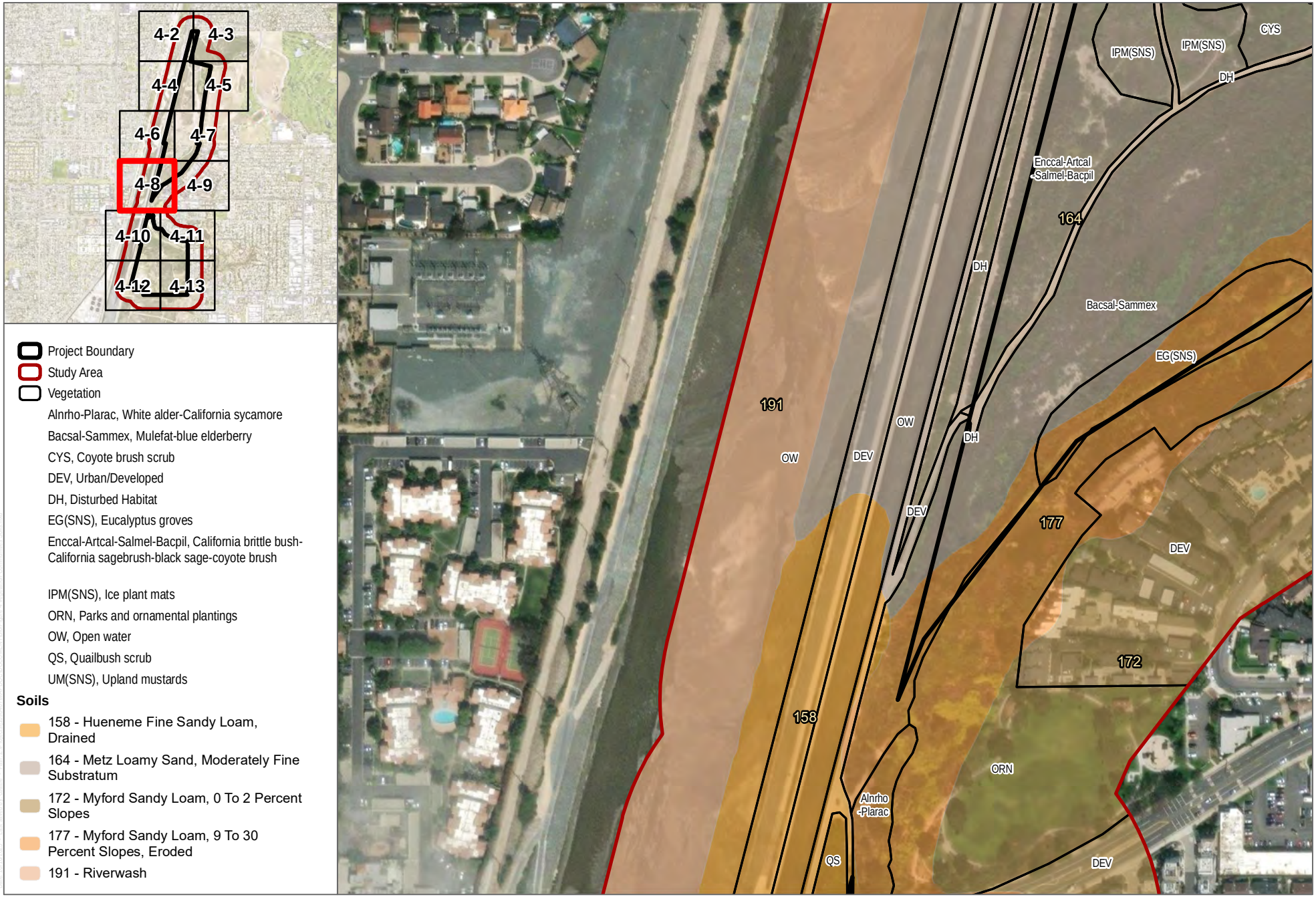

SOURCE: ESRI 2020

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FIGURE 4-7

Vegetation Communities and Land Covers

Talbert Regional Park

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SOURCE: ESRI 2020

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FIGURE 4-8

Vegetation Communities and Land Covers

Talbert Regional Park

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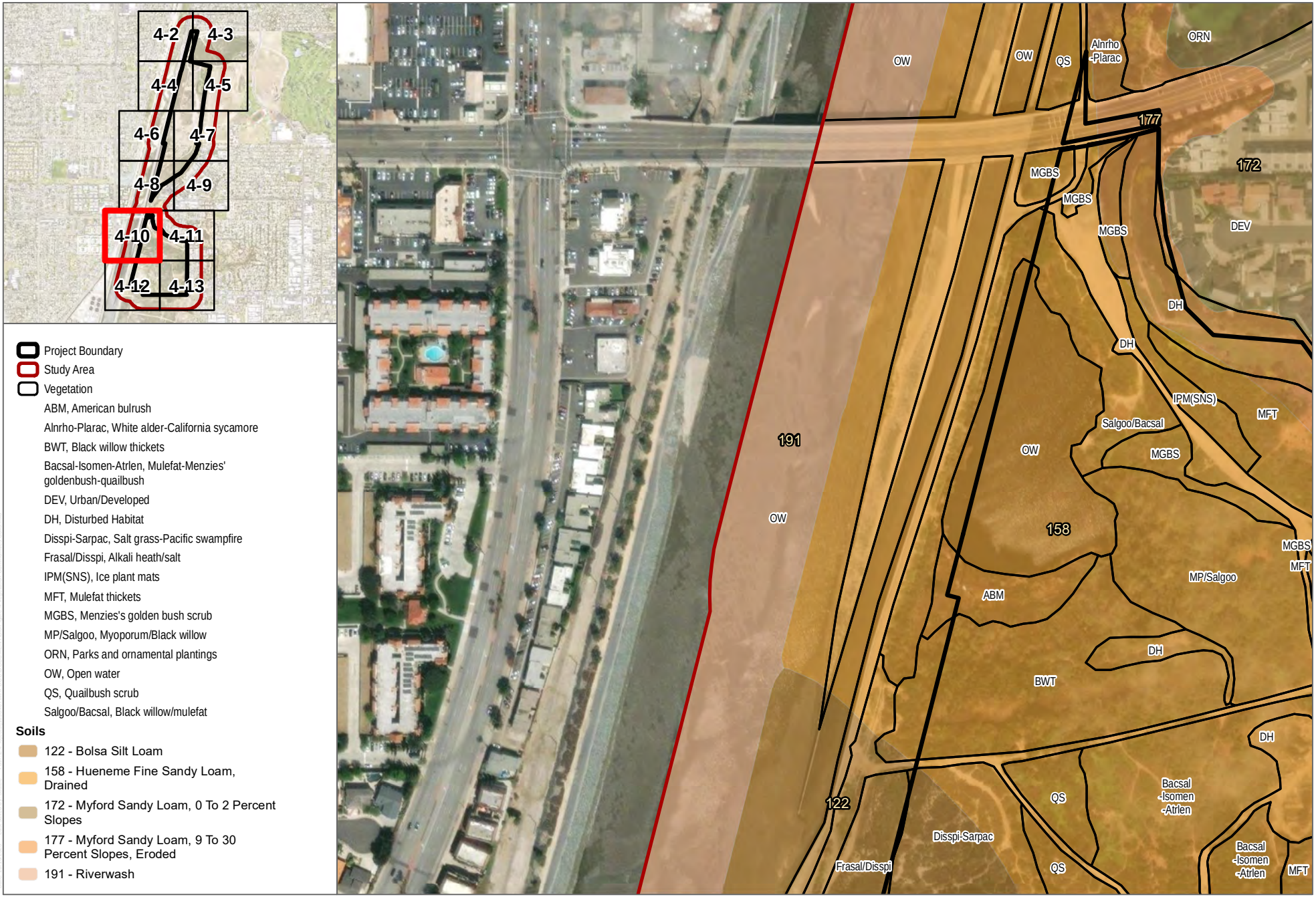

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FIGURE 4-9

Vegetation Communities and Land Covers

Talbert Regional Park

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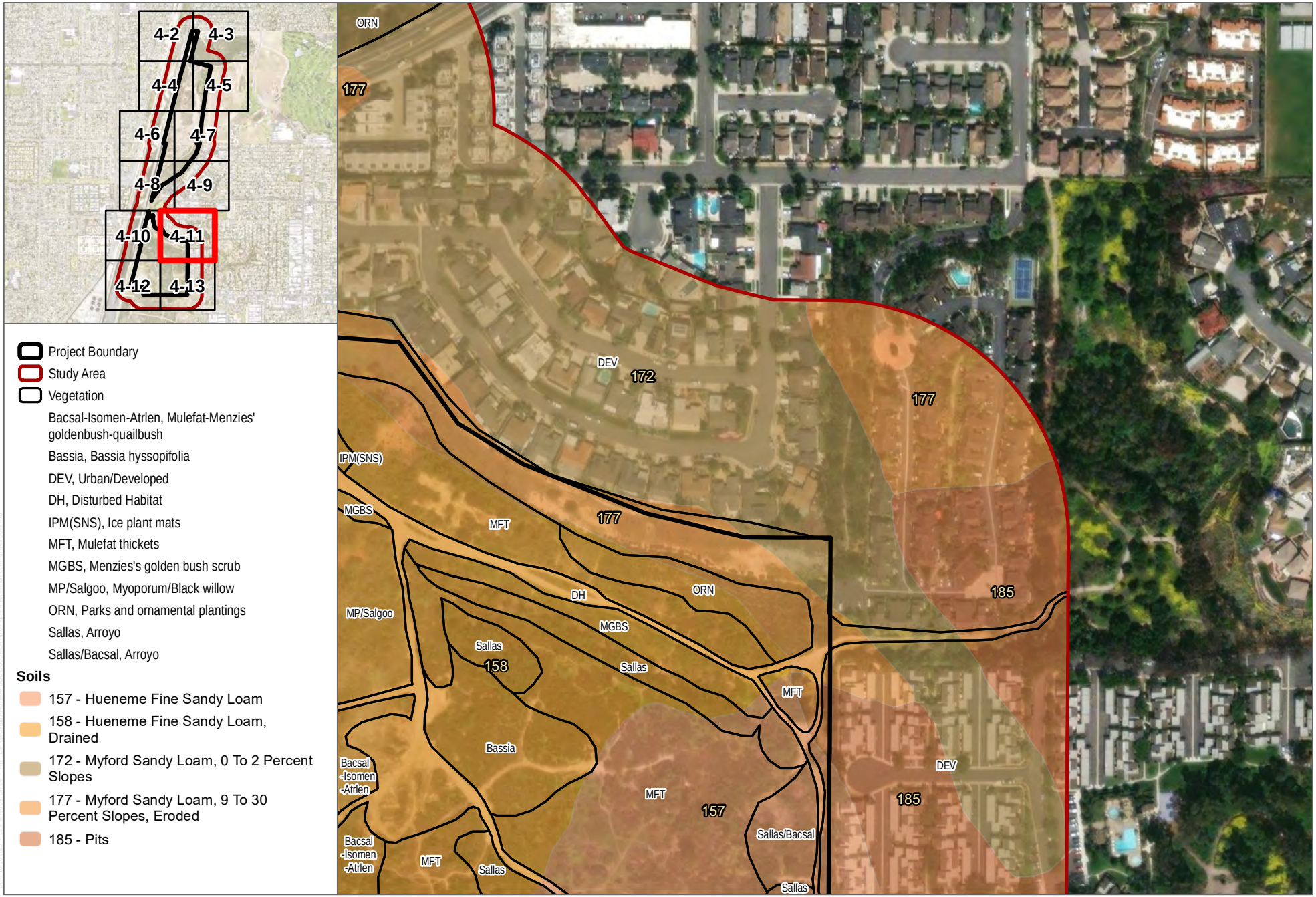

SOURCE: ESRI 2020

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FIGURE 4-10

Vegetation Communities and Land Covers

Talbert Regional Park

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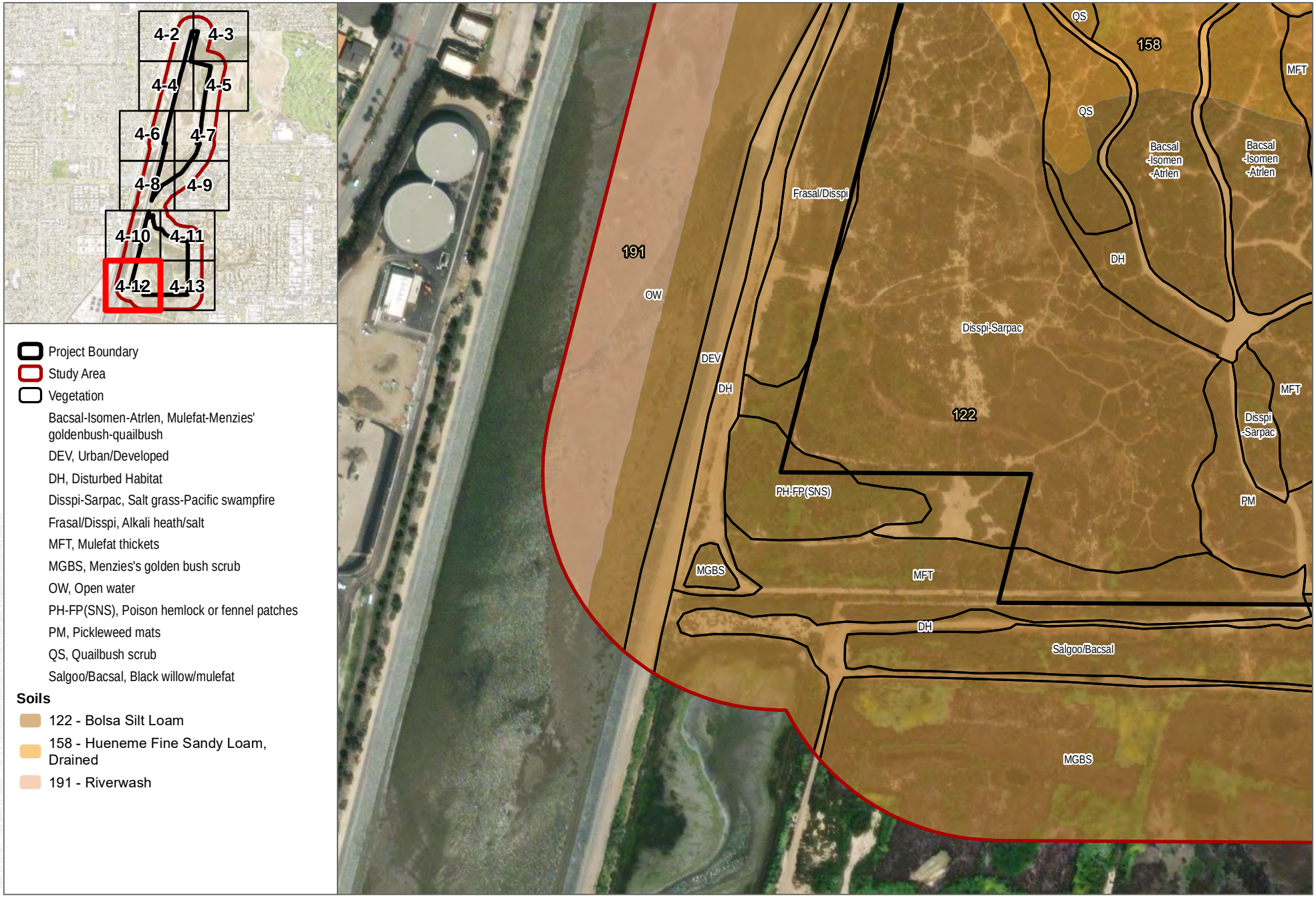

SOURCE: ESRI 2020

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FIGURE 4-11

Vegetation Communities and Land Covers

Talbert Regional Park

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FIGURE 4-12

Vegetation Communities and Land Covers

Talbert Regional Park

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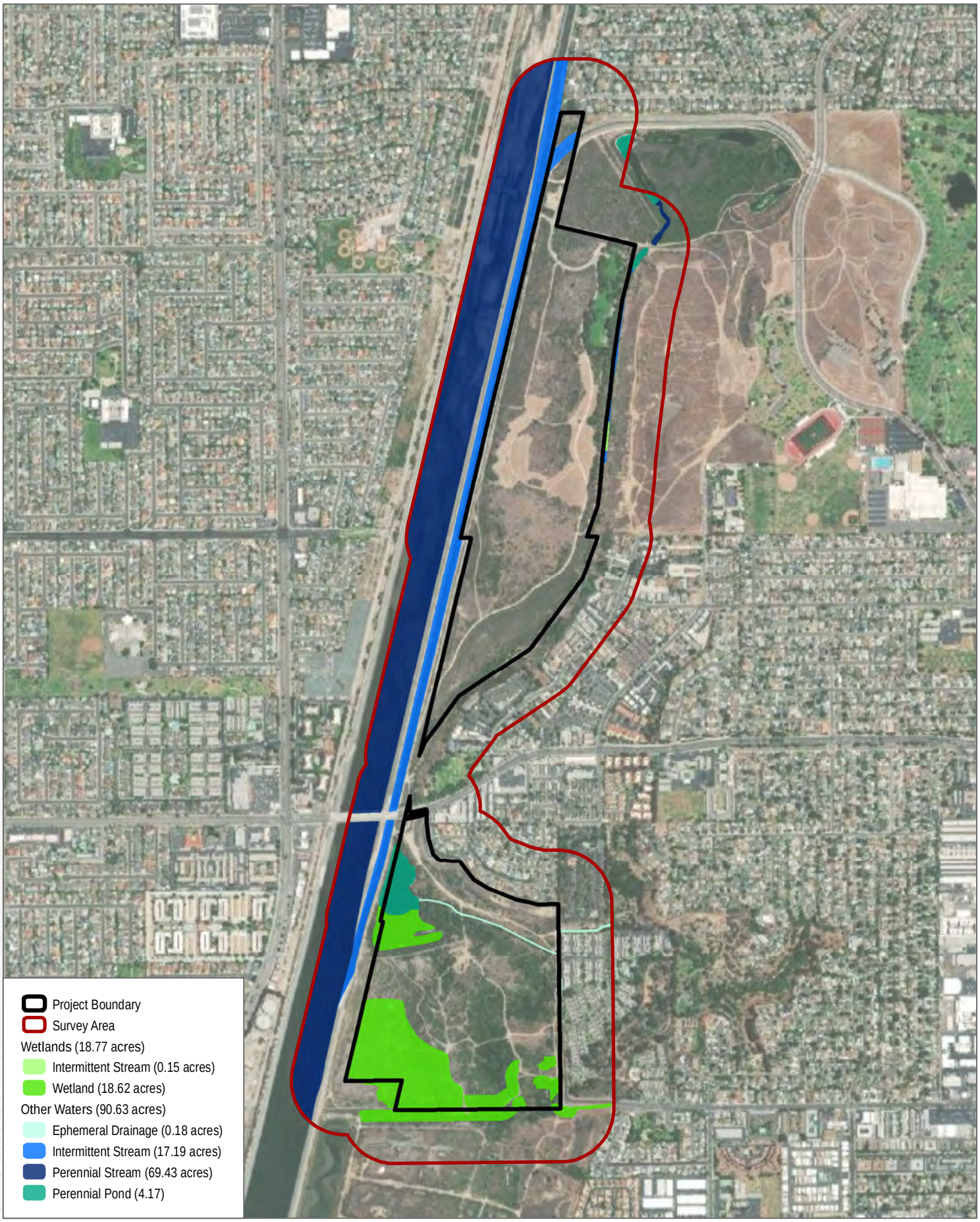

SOURCE: ESRI 2020

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FIGURE 5-1

ACOE/RWQCB Jurisdiction Overview

Talbert Regional Park

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FIGURE 5-2

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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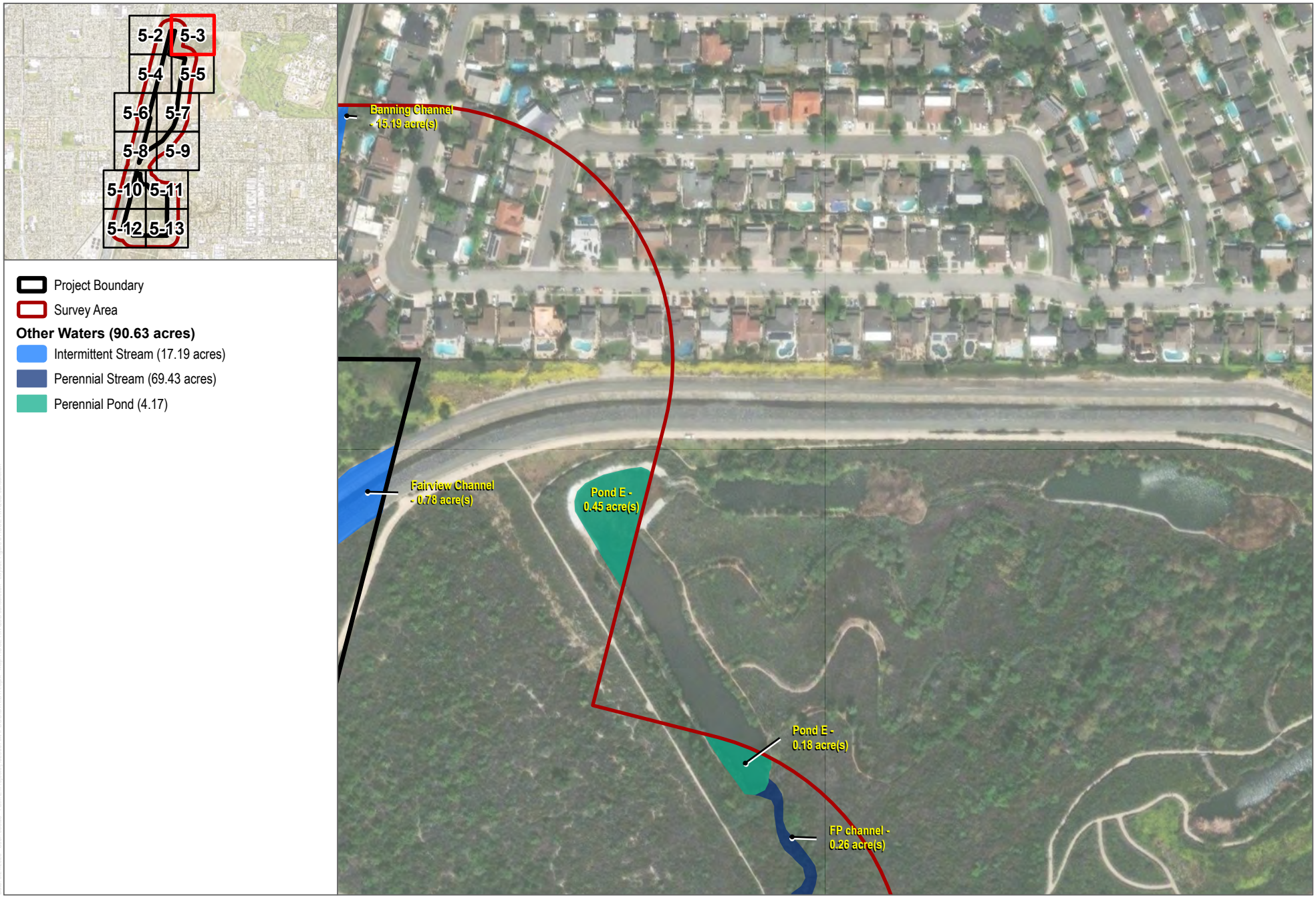

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FIGURE 5-3

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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FIGURE 5-4

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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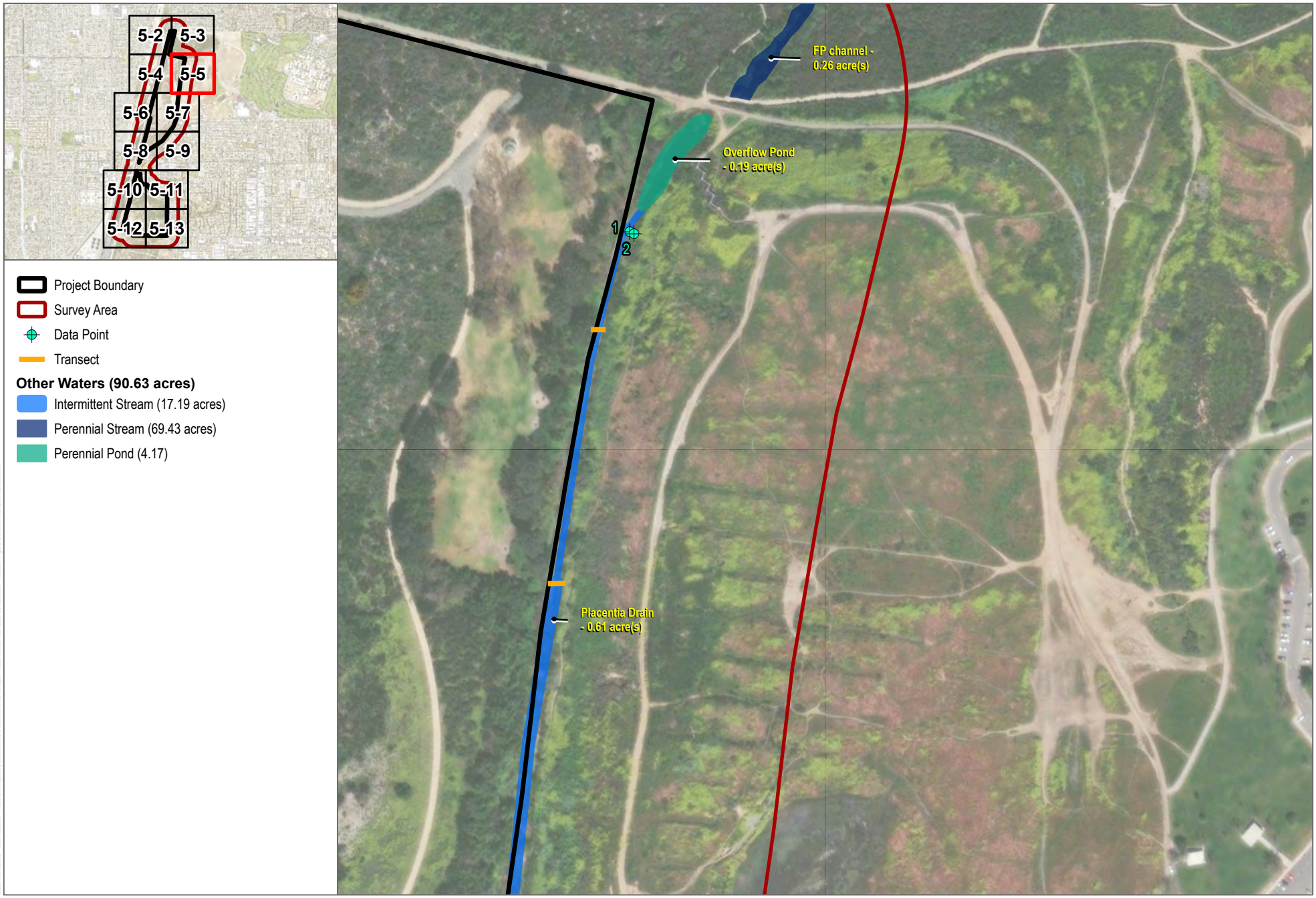

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FIGURE 5-5

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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FIGURE 5-6

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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FIGURE 5-7

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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FIGURE 5-8

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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FIGURE 5-9

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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FIGURE 5-10

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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FIGURE 5-11

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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FIGURE 5-12

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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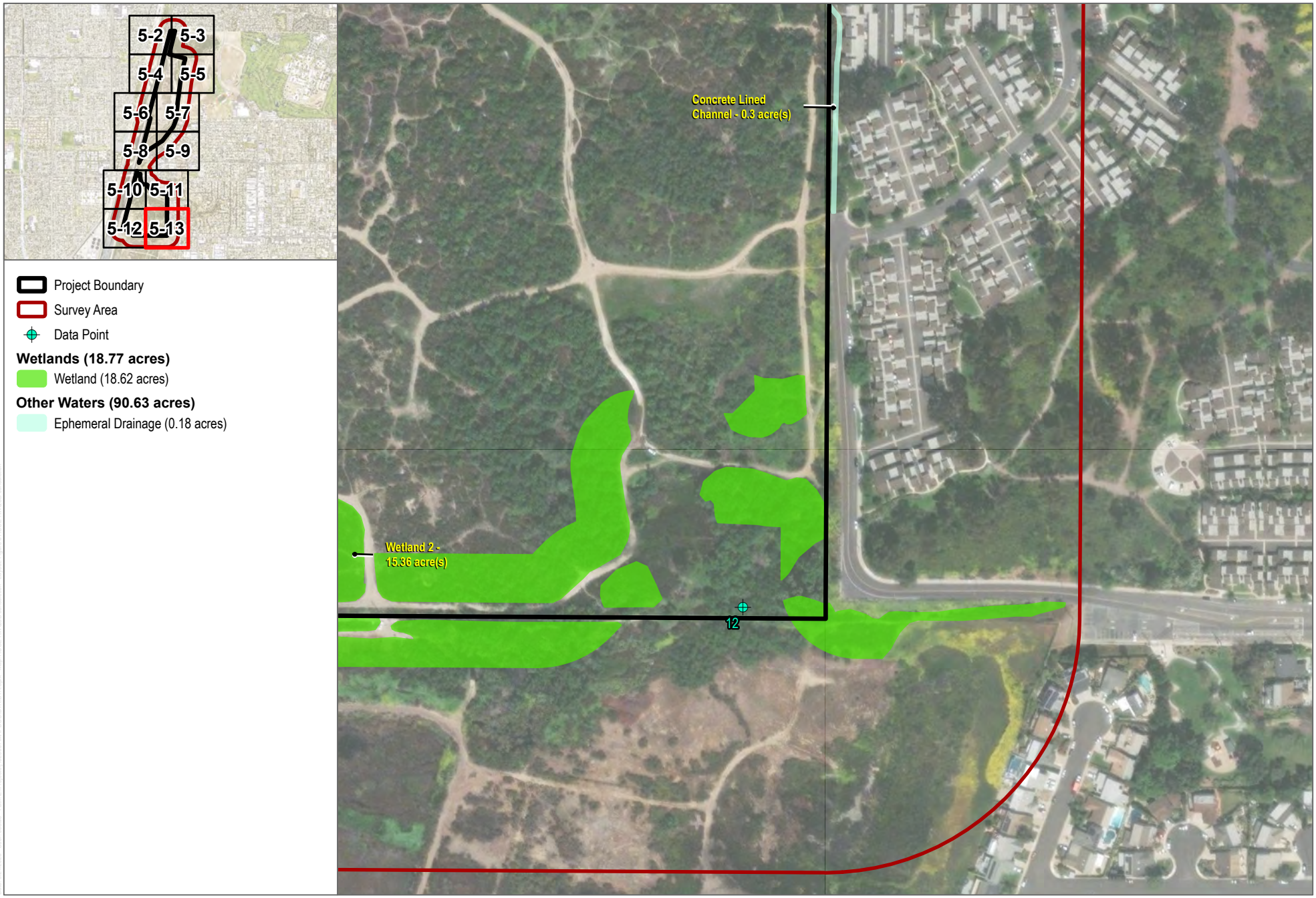

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FIGURE 5-13

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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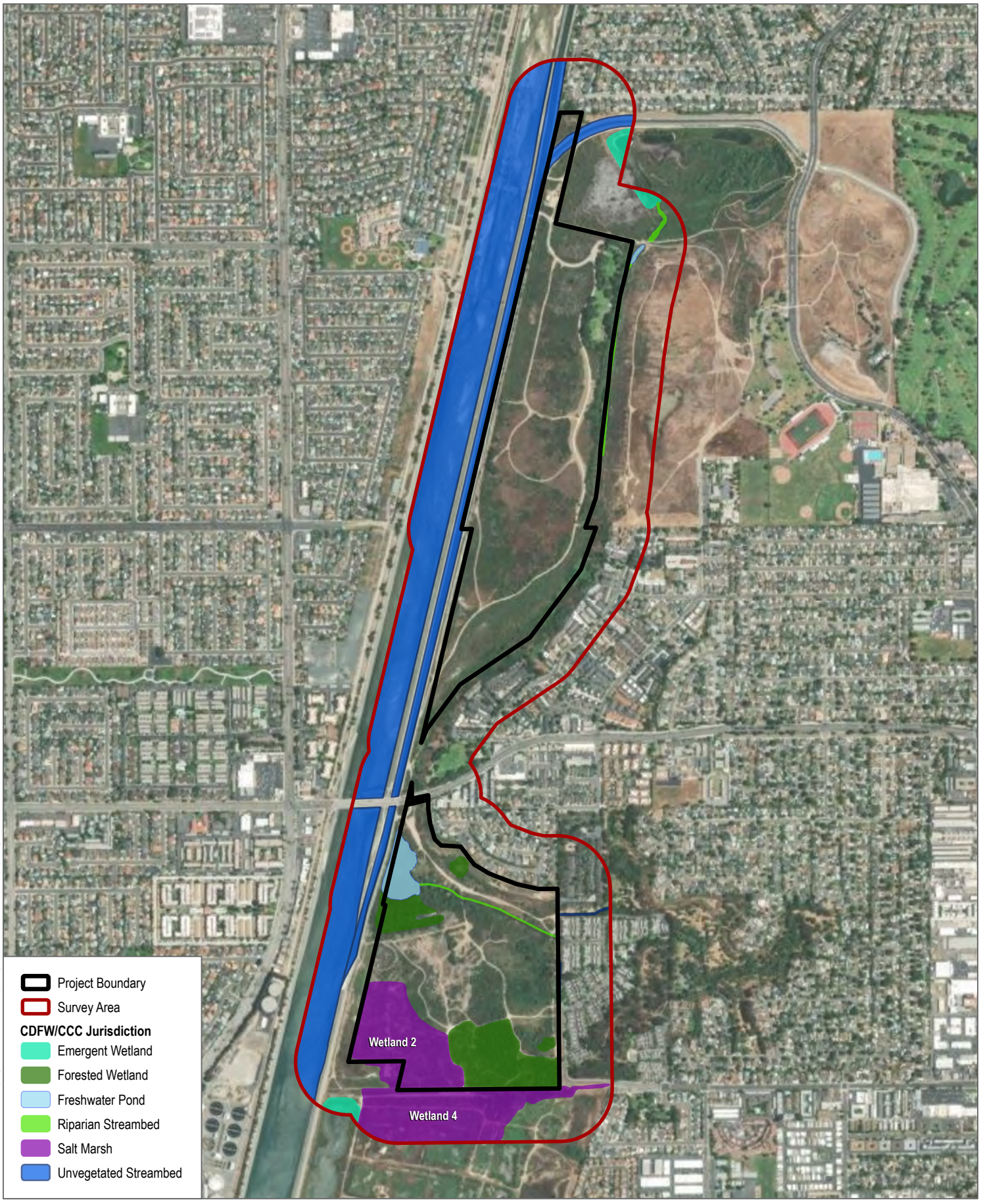

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FIGURE 6-1

CDFW/CCC Jurisdiction Overview

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FIGURE 6-2

CDFFW/CCC Jurisdiction

Talbert Regional Park

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FIGURE 6-3

CDFFW/CCC Jurisdiction

Talbert Regional Park

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FIGURE 6-4

CDFFW/CCC Jurisdiction

Talbert Regional Park

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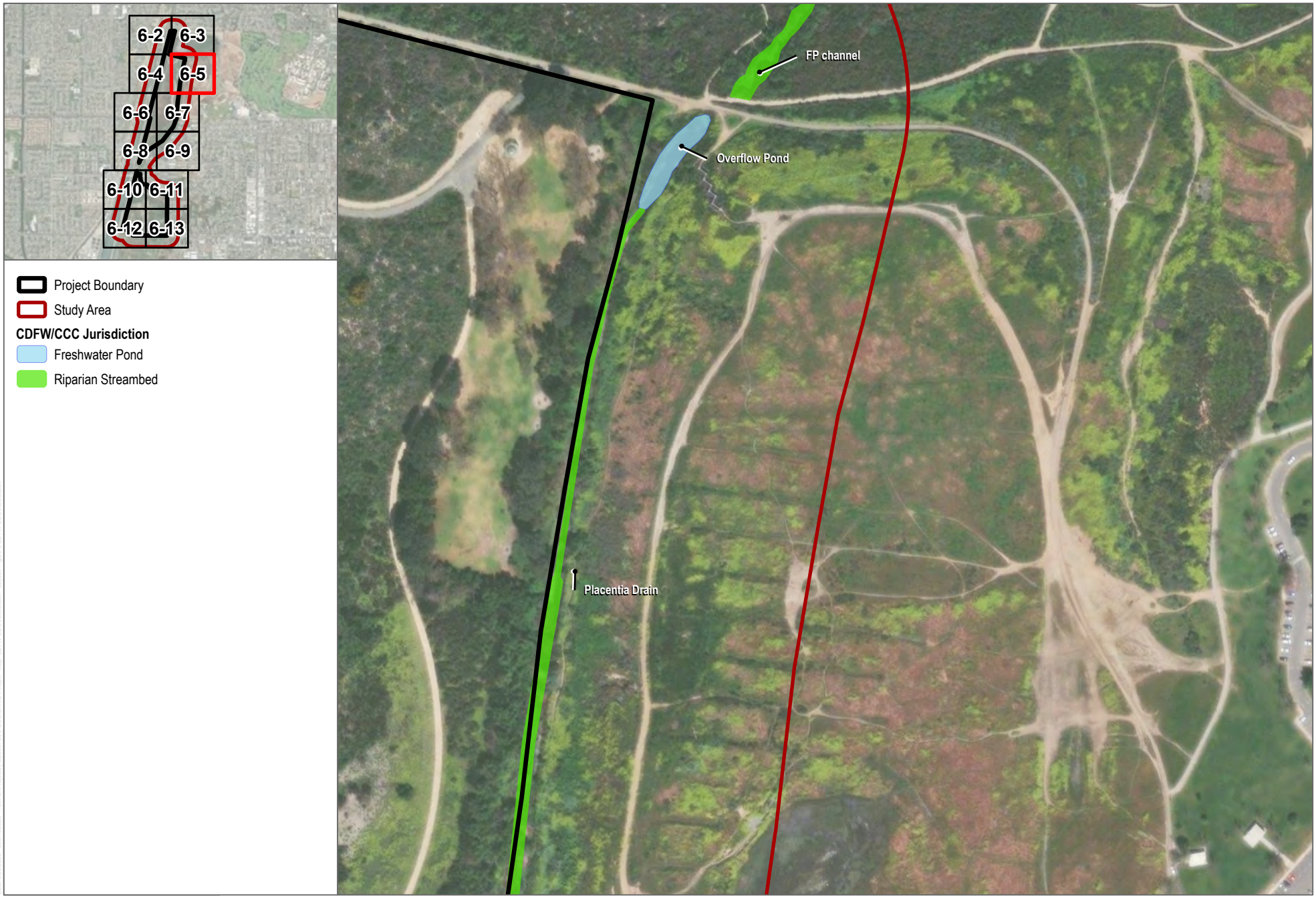

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FIGURE 6-5

CDFFW/CCC Jurisdiction

Talbert Regional Park

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FIGURE 6-6

CDFFW/CCC Jurisdiction

Talbert Regional Park

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FIGURE 6-7

CDFFW/CCC Jurisdiction

Talbert Regional Park

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FIGURE 6-8

CDFFW/CCC Jurisdiction

Talbert Regional Park

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FIGURE 6-9

CDFFW/CCC Jurisdiction

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FIGURE 6-10

CDFFW/CCC Jurisdiction

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FIGURE 6-11

CDFFW/CCC Jurisdiction

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FIGURE 6-12

CDFFW/CCC Jurisdiction

Talbert Regional Park

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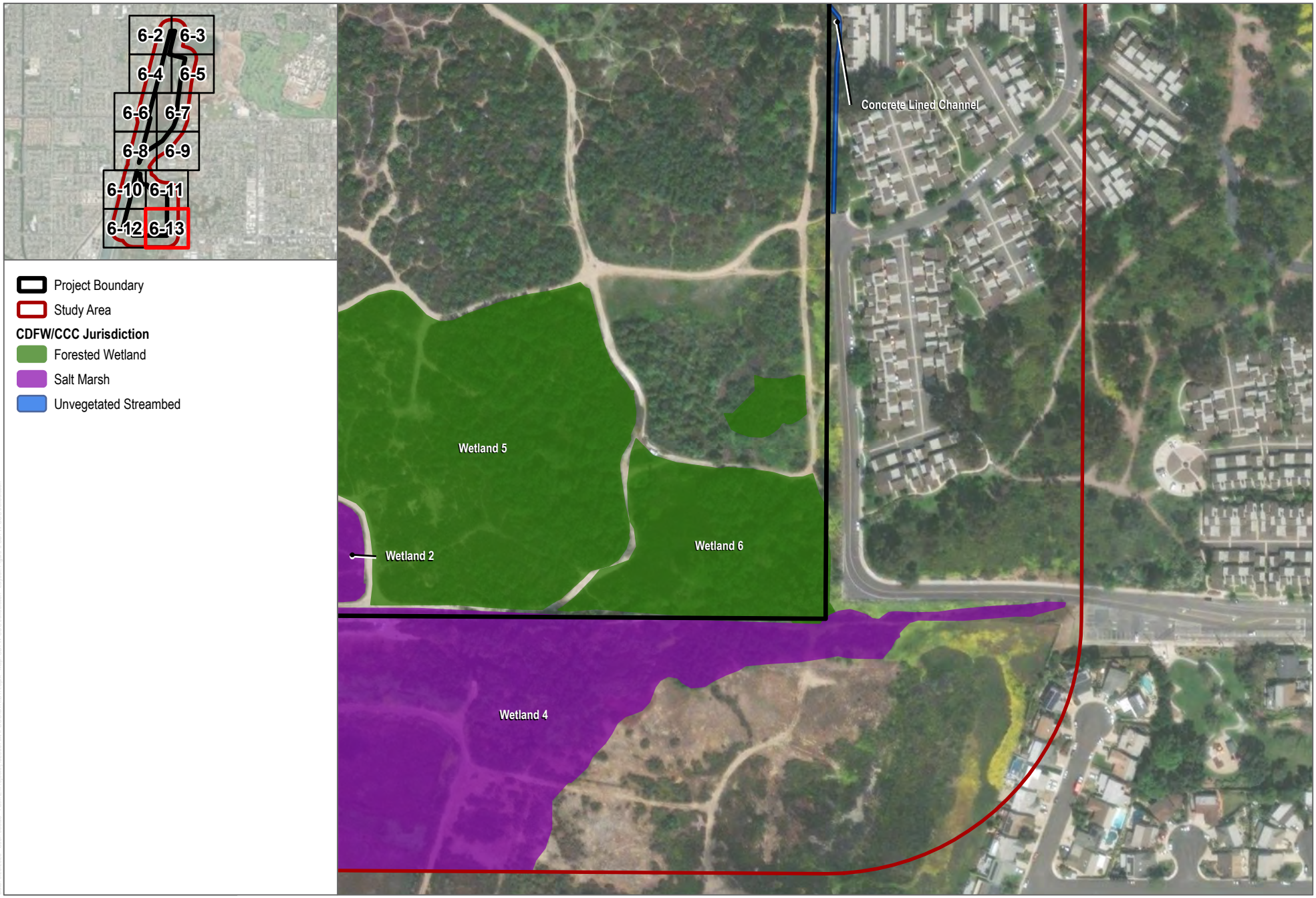

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FIGURE 6-13

CDFFW/CCC Jurisdiction

Talbert Regional Park

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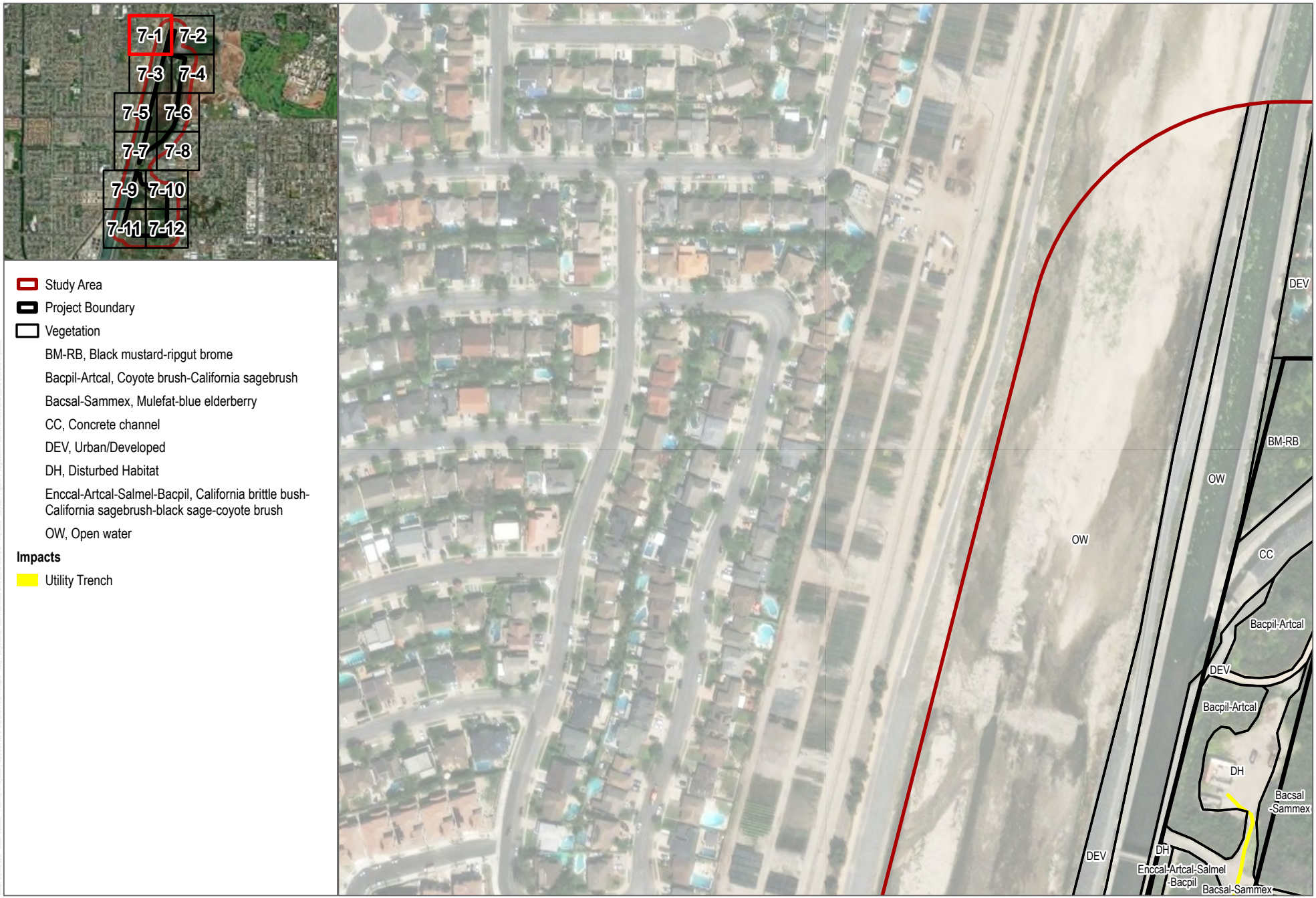

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FIGURE 7-1

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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FIGURE 7-2

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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FIGURE 7-3

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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FIGURE 7-4

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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FIGURE 7-5

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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FIGURE 7-6

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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FIGURE 7-7

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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FIGURE 7-8

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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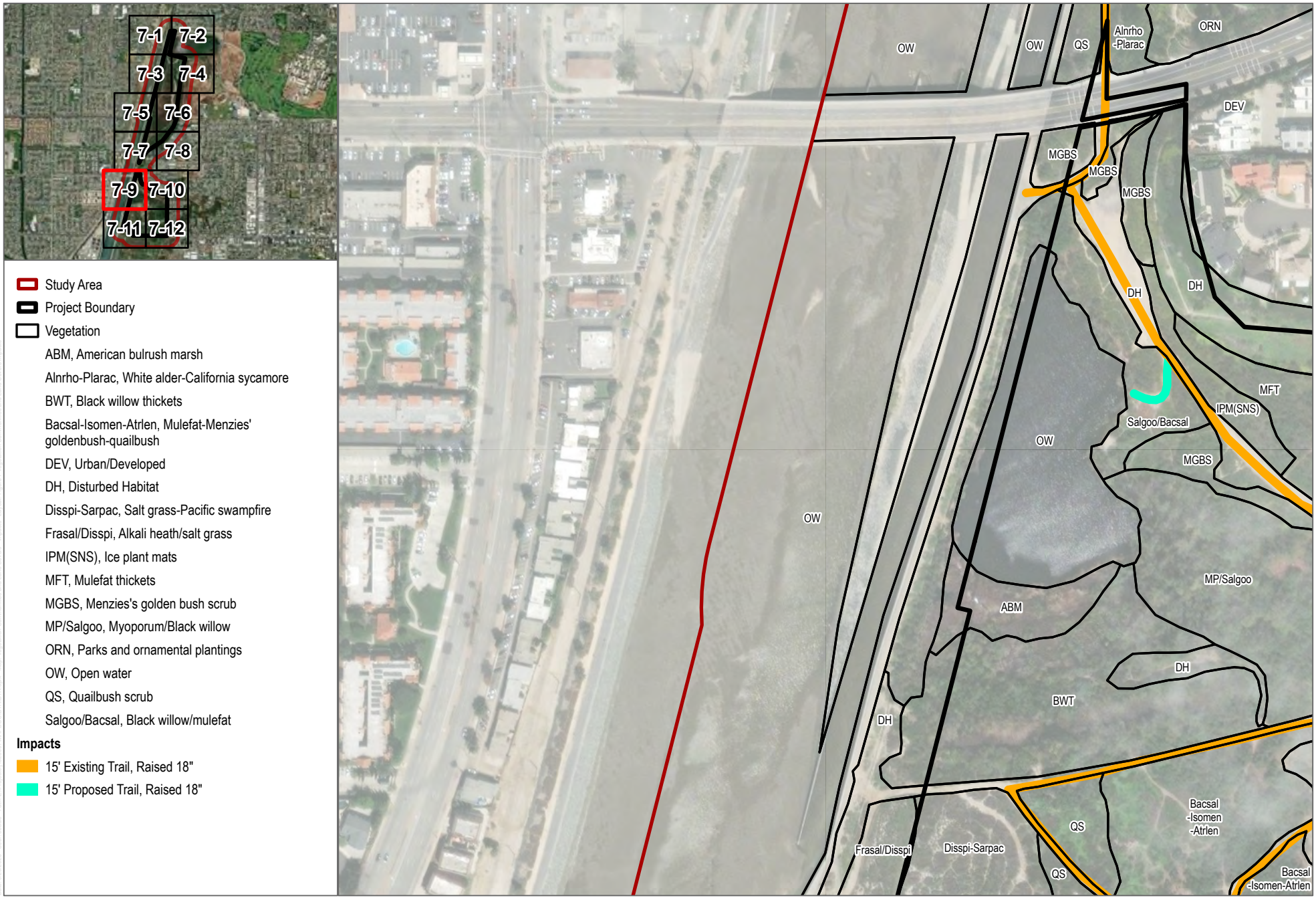

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FIGURE 7-9

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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SOURCE:

DUDEK

0 120 240 Feet

FIGURE 7-10

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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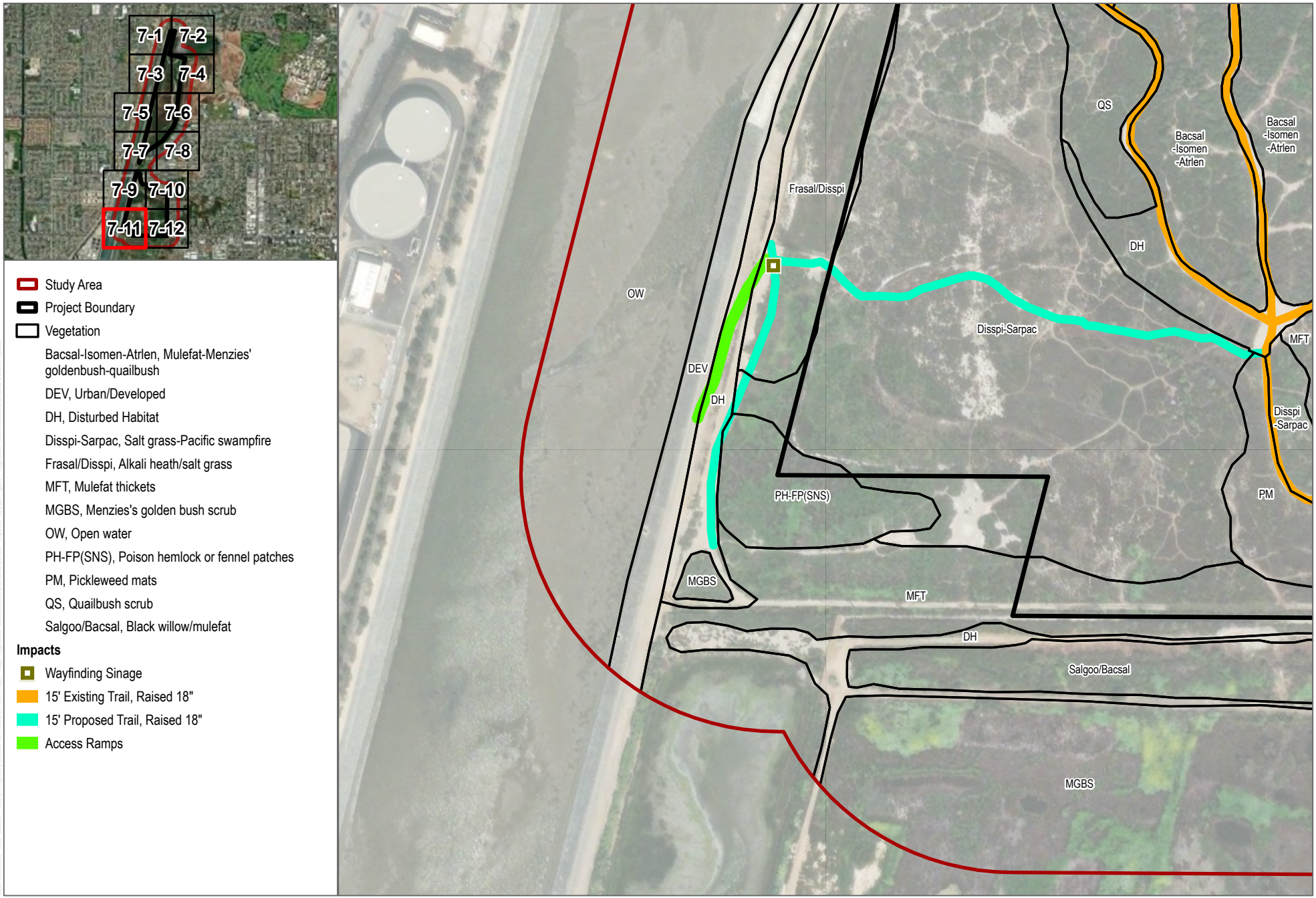

SOURCE:

DUDEK

0 120 240 Feet

FIGURE 7-11

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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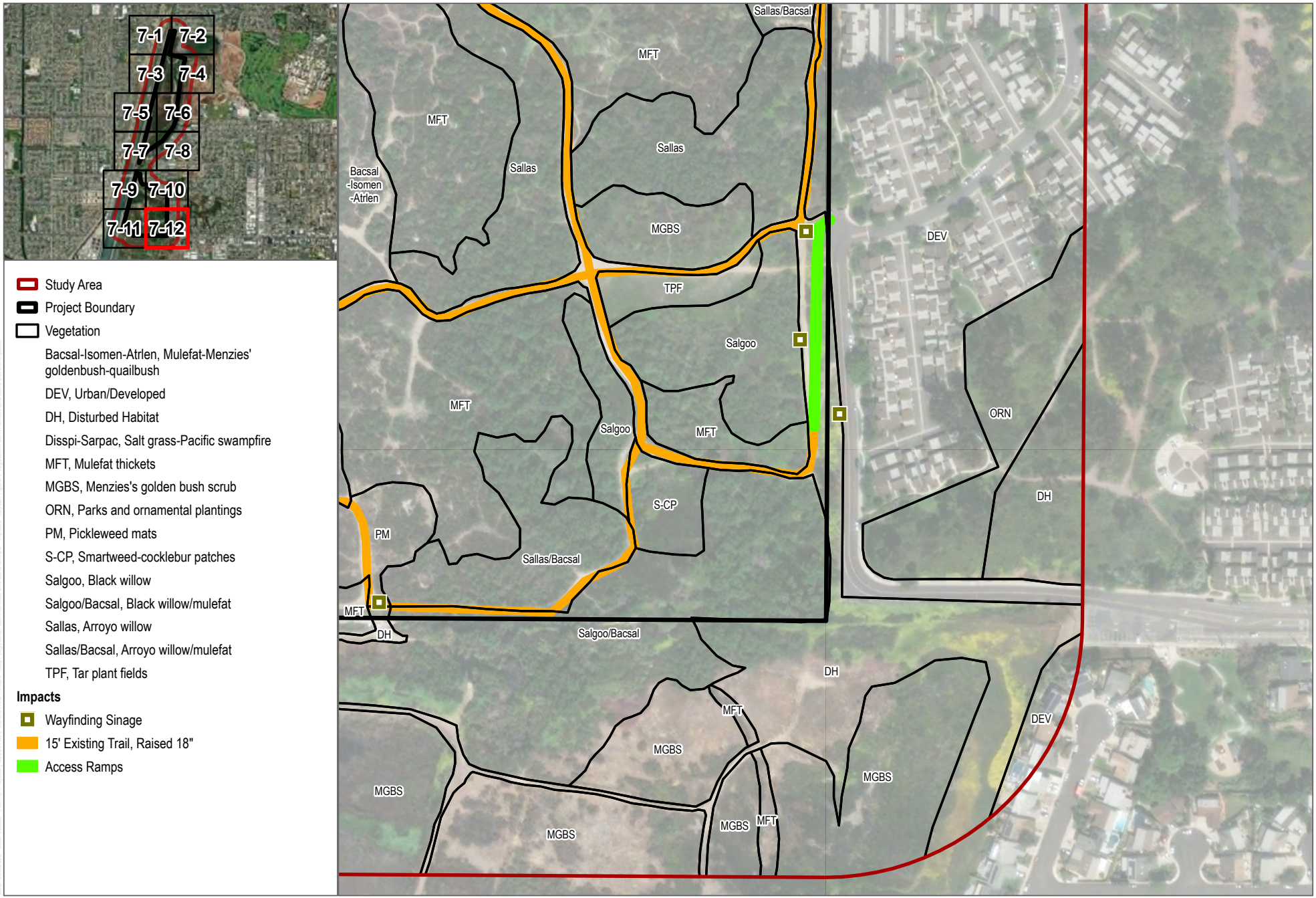

SOURCE:

DUDEK

FIGURE 7-12

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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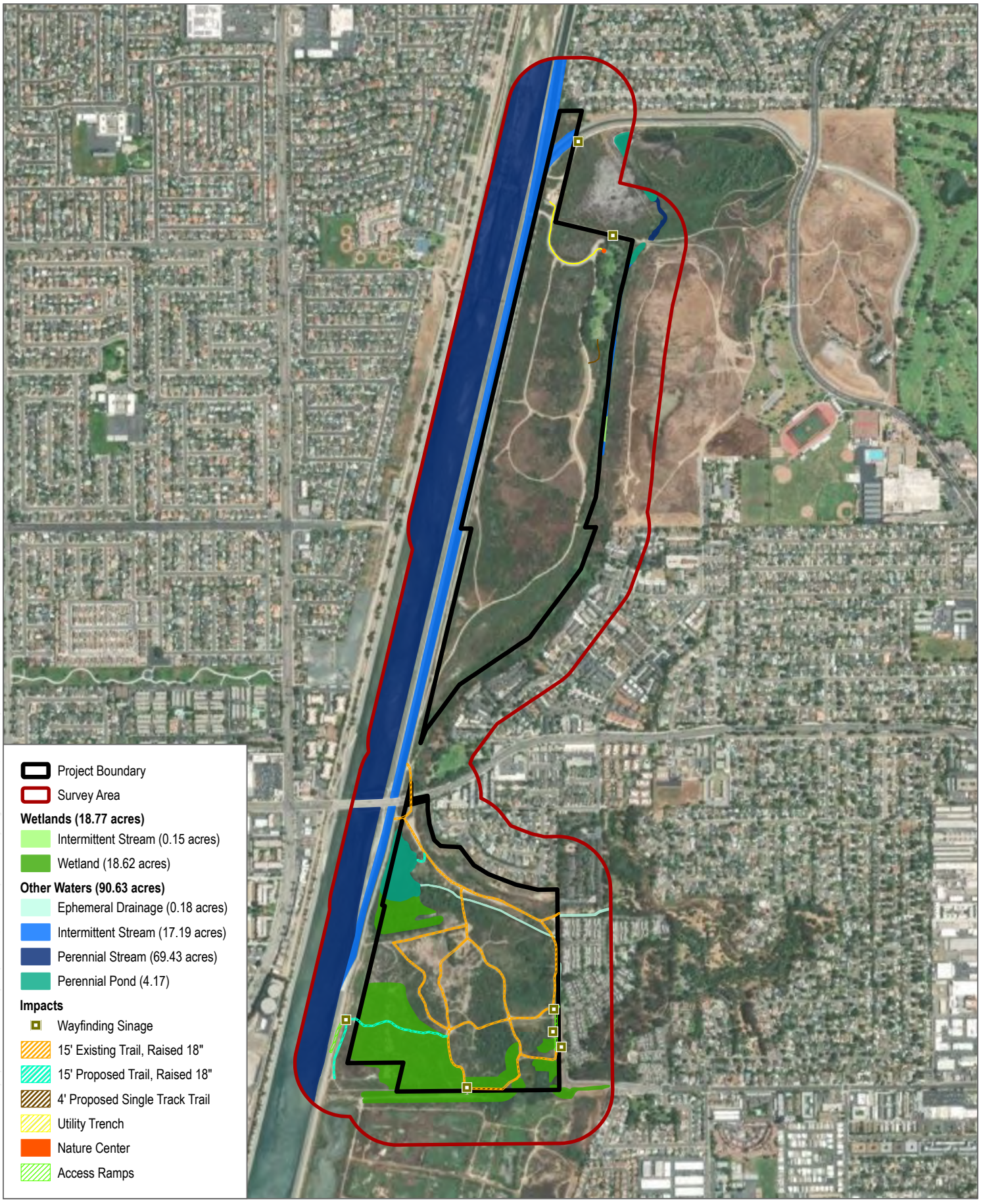

SOURCE:

FIGURE 8-1

ACOE/RWQCB Jurisdictional Impacts Overview

Talbert Regional Park

DUDEK

0 500 1,000 Feet

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 120 240 Feet

FIGURE 8-2

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 120 240 Feet

FIGURE 8-3

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 120 240 Feet

FIGURE 8-4

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 120 240 Feet

FIGURE 8-5

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 120 240 Feet

FIGURE 8-6

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 120 240 Feet

FIGURE 8-7

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 120 240 Feet

FIGURE 8-8

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 120 240 Feet

FIGURE 8-9

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 120 240 Feet

FIGURE 8-10

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 120 240 Feet

FIGURE 8-11

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 120 240 Feet

FIGURE 8-12

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 120 240 Feet

FIGURE 8-13

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

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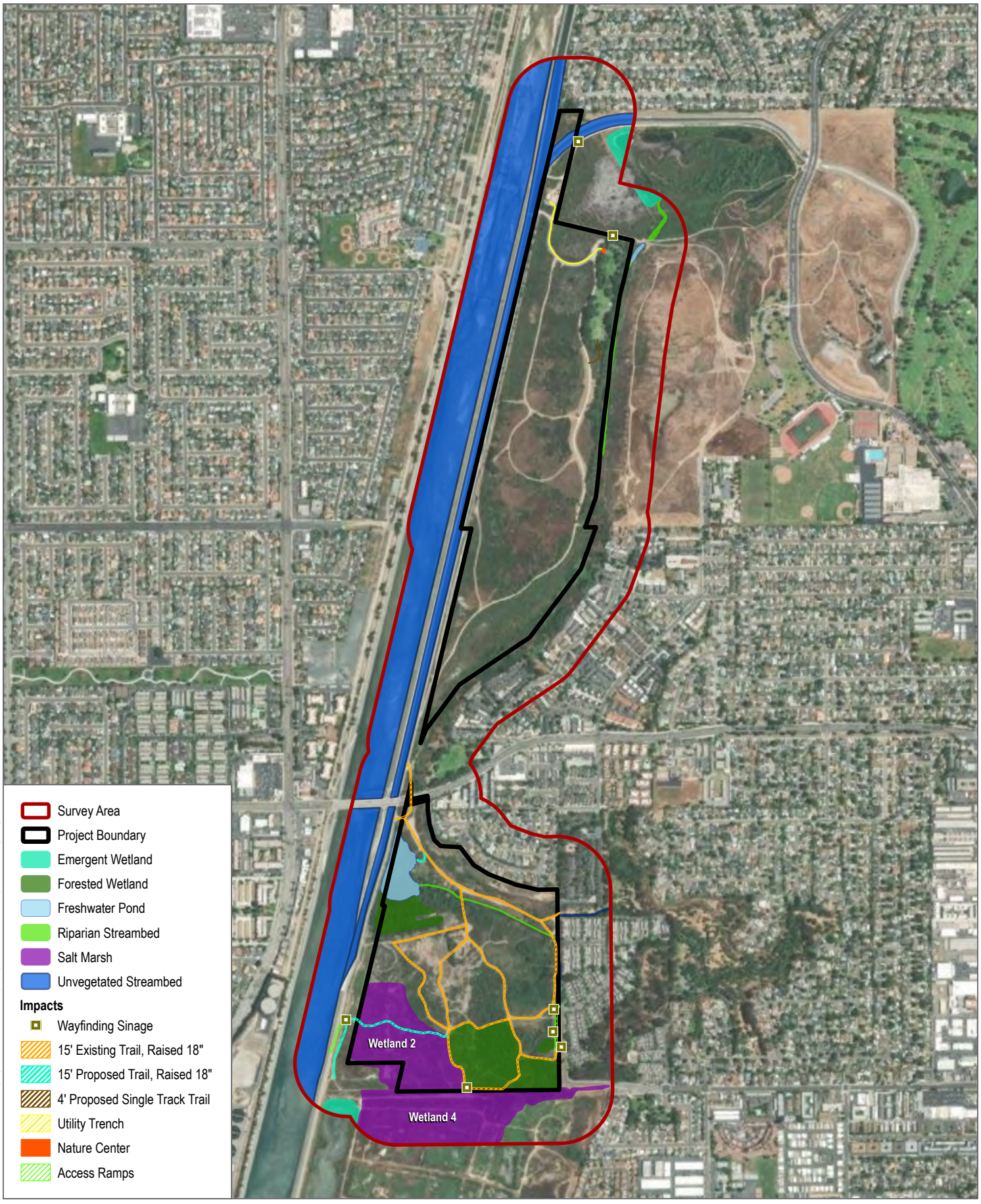

SOURCE:

DUDEK

0 700 1,400 Feet

FIGURE 9-1

CDFW/CCC Jurisdictional Impacts Overview

Talbert Regional Park

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SOURCE:

DUDEK

0 165 330 Feet

FIGURE 9-2

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 165 330 Feet

FIGURE 9-3

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

FIGURE 9-4

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 165 330 Feet

FIGURE 9-5

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 165 330 Feet

FIGURE 9-6

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

FIGURE 9-7

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 165 330 Feet

FIGURE 9-8

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 165 330 Feet

FIGURE 9-9

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 165 330 Feet

FIGURE 9-10

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 165 330 Feet

FIGURE 9-11

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK

SOURCE:

DUDEK

0 165 330 Feet

FIGURE 9-12

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

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SOURCE:

DUDEK

0 165 330 Feet

FIGURE 9-13

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

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SOURCE:

DUDEK

0 500 1,000 Feet

FIGURE 10

Sensitive Biological Resources

Talbert Regional Park

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Appendix A
Species Compendium

Plant Species

Angiosperms (Dicots)

AIZOACEAE – FIG MARIGOLD FAMILY

* *Carpobrotus chilensis*—sea fig
* *Carpobrotus edulis*—hottentot fig
* *Mesembryanthemum crystallinum*—common iceplant
* *Mesembryanthemum nodiflorum*—slenderleaf iceplant

AMARANTHACEAE – AMARANTH FAMILY

* *Amaranthus albus*—prostrate pigweed

ANACARDIACEAE—SUMAC FAMILY

Malosma laurina—laurel sumac

Rhus integrifolia—lemonade berry

* *Schinus molle*—Peruvian peppertree
* *Schinus terebinthifolia*—Brazilian peppertree

APIACEAE – CARROT FAMILY

* *Anthriscus caucalis*—bur chervil
* *Apium graveolens*—wild celery
* *Conium maculatum*—poison hemlock
* *Foeniculum vulgare*—fennel

ARALIACEAE – GINSENG FAMILY

* *Hedera helix*—English ivy

ASTERACEAE—SUNFLOWER FAMILY

Ambrosia acanthicarpa—flatspine bur ragweed

Ambrosia chamissonis—silver bur ragweed

Ambrosia psilostachya—western ragweed

Artemisia californica—California sagebrush

Artemisia douglasiana—Douglas' sagewort

Artemisia dracunculus—wild tarragon

Baccharis pilularis ssp. consanguinea—coyotebrush

Baccharis salicifolia ssp. salicifolia—mulefat

* *Centaurea melitensis*—Maltese star-thistle

Centromadia parryi ssp. australis—southern tarplant

* *Cirsium vulgare*—bull thistle
* *Cotula coronopifolia*—brass buttons

Deinandra fasciculata—clustered tarweed
* *Dimorphotheca sinuata*—glandular Cape marigold
Encelia californica—California brittle bush
Encelia farinosa—brittle bush
* *Erigeron bonariensis*—asthmaweed
Erigeron canadensis—Canadian horseweed
Eriophyllum confertiflorum var. confertiflorum—golden-yarrow
* *Glebionis coronaria*—crowndaisy
Gnaphalium palustre—western marsh cudweed
Hazardia squarrosa—sawtooth golden bush
* *Helminthotheca echioides*—bristly oxtongue
Heterotheca grandiflora—telegraphweed
* *Hypochaeris glabra*—smooth cat's ear
Isocoma menziesii var. decumbens—decumbent goldenbush
Isocoma menziesii var. menziesii—Menzies' goldenbush
Iva hayesiana—San Diego marsh-elder
* *Lactuca serriola*—prickly lettuce
Laennecia coulteri—Coulter's horseweed
* *Logfia gallica*—narrowleaf cottonrose
* *Oncosiphon pilulifer*—stinknet
Pluchea sericea—arrow weed
Pseudognaphalium beneolens—Wright's cudweed
Pseudognaphalium californicum—ladies' tobacco
* *Pseudognaphalium luteoalbum*—Jersey cudweed
Pseudognaphalium stramineum—cottonbatting plant
Psilocarphus brevissimus—short woollyheads
* *Pulicaria paludosa*—Spanish false fleabane
* *Silybum marianum*—blessed milkthistle
* *Sonchus asper ssp. asper*—spiny sowthistle
* *Sonchus oleraceus*—common sowthistle
Stephanomeria exigua ssp. coronaria—whiteplume wirelettuce
Xanthium orientale—cocklebur

BORAGINACEAE—BORAGE FAMILY

* *Echium candicans*—pride of Madeira
Heliotropium curassavicum var. oculatum—seaside heliotrope

BRASSICACEAE—MUSTARD FAMILY

* *Brassica nigra*—black mustard
Descurainia pinnata—western tansymustard
* *Hirschfeldia incana*—shortpod mustard

* *Lepidium didymum*—lesser swinecress
* *Lepidium latifolium*—perennial pepper weed
  Lepidium nitidum—shining pepperweed
* *Lobularia maritima*—sweet alyssum
* *Raphanus sativus*—cultivated radish
* *Sisymbrium irio*—London rocket

CACTACEAE – CACTUS FAMILY

Opuntia littoralis—coast prickly pear

CAPRIFOLIACEAE – HONEYSUCKLE FAMILY

* *Lonicera japonica*—Japanese honeysuckle

CARYOPHYLLACEAE—PINK FAMILY

* *Polycarpon tetraphyllum ssp. tetraphyllum*—fourleaf manyseed
* *Spergularia bocconi*—Boccone's sandspurry
  Spergularia marina—saltmarsh sand-spurrey

CHENOPODIACEAE—GOOSEFOOT FAMILY

Atriplex lentiformis—quailbush
* *Atriplex prostrata*—fat hen
* *Atriplex semibaccata*—Australian saltbush
* *Bassia hyssopifolia*—fivehorn smotherweed
* *Chenopodium album*—lambsquarters
* *Chenopodium murale*—nettleleaf goosefoot
* *Dysphania ambrosioides*—Mexican tea
  Salicornia pacifica—Pacific swampfire
* *Salsola tragus*—prickly Russian thistle

CLEOMACEAE—CLEOME FAMILY

Cleomella arborea—bladderpod

CONVOLVULACEAE—MORNING-GLORY FAMILY

Cressa truxillensis—alkali weed

CRASSULACEAE—STONECROP FAMILY

Crassula connata—sand pygmyweed
* *Crassula ovata*—jade plant

ELATINACEAE—WATERWORT FAMILY

Elatine brachysperma—shortseed waterwort

EUPHORBIACEAE—SPURGE FAMILY

Croton californicus—California croton
* *Euphorbia maculata*—spotted sandmat
* *Euphorbia peplus*—petty spurge
* *Ricinus communis*—castorbean

FABACEAE—LEGUME FAMILY

* *Acacia cyclops*—coastal wattle
Acmispon glaber—deerweed
Lupinus albifrons—silver bush lupine
* *Medicago polymorpha*—burclover
* *Melilotus indicus*—annual yellow sweetclover

FRANKENIACEAE—FRANKENIA FAMILY

Frankenia salina—alkali heath

GERANIACEAE—GERANIUM FAMILY

* *Erodium cicutarium*—redstem stork's bill
* *Erodium moschatum*—musky stork's bill
* *Geranium dissectum*—cutleaf geranium

HYDROPHYLLACEAE—WATERLEAF FAMILY

Phacelia distans—distant phacelia
Phacelia tanacetifolia—lacy phacelia

JUGLANDACEAE—WALNUT FAMILY

Juglans californica—Southern California black walnut

LAMIACEAE—MINT FAMILY

* *Marrubium vulgare*—horehound
Salvia leucophylla—purple sage
Salvia mellifera—black sage

LYTHRACEAE—LOOSESTRIFE FAMILY

* *Lythrum hyssopifolia*—hyssop loosestrife

MALVACEAE—MALLOW FAMILY

Malvella leprosa—alkali mallow

MYRSINACEAE—MYRSINE FAMILY

* *Lysimachia arvensis*—scarlet pimpernel

MYRTACEAE—MYRTLE FAMILY

* *Eucalyptus camaldulensis*—river redgum

NAMACEAE—NAMA FAMILY

Nama stenocarpa—mud nama

OLEACEAE—OLIVE FAMILY

* *Fraxinus uhdei*—evergreen ash
* *Olea europaea*—olive

ONAGRACEAE—EVENING PRIMROSE FAMILY

Camissoniopsis cheiranthifolia—beach suncup
Camissoniopsis lewisii—Lewis' evening-primrose
Camissoniopsis micrantha—miniature suncup
Epilobium ciliatum—fringed willowherb
Oenothera elata ssp. hirsutissima—Hooker's evening primrose

OXALIDACEAE—OXALIS FAMILY

* *Oxalis pes-caprae*—Bermuda buttercup

PAPAVERACEAE—POPPY FAMILY

Eschscholzia californica—California poppy
Romneya coulteri—Coulter's matilija poppy

PHRYMACEAE—LOPSEED FAMILY

Diplacus longiflorus—southern bush monkeyflower

PLANTAGINACEAE—PLANTAIN FAMILY

* *Plantago lanceolata*—narrowleaf plantain

Veronica peregrina ssp. xalapensis—hairy purslane speedwell

PLATANACEAE—PLANE TREE, SYCAMORE FAMILY

* *Platanus hispanica*—London planetree

Platanus racemosa—California sycamore

PLUMBAGINACEAE—LEADWORT FAMILY

* *Limonium perezii*—Perez's sea lavender

POLYGONACEAE—BUCKWHEAT FAMILY

* *Emex spinosa*—spiny threecornerjack

Eriogonum fasciculatum—California buckwheat
Eriogonum giganteum—Saint Catherine's lace

Eriogonum parvifolium—seacliff buckwheat
Persicaria lapathifolia—smartweed
* *Rumex conglomeratus*—clustered dock
* *Rumex crispus*—curly dock

RANUNCULACEAE—BUTTERCUP FAMILY

* *Ranunculus muricatus*—spinyfruit buttercup

ROSACEAE—ROSE FAMILY

Heteromeles arbutifolia—toyon
Prunus ilicifolia—holly leaf cherry
Rosa californica—California rose

SALICACEAE—WILLOW FAMILY

Populus fremontii ssp. fremontii—Fremont cottonwood
Salix exigua—sandbar willow
Salix gooddingii—Goodding's willow
Salix lasiolepis—arroyo willow

SAURURACEAE—LIZARD'S-TAIL FAMILY

Anemopsis californica—yerba mansa

SCROPHULARIACEAE—FIGWORT FAMILY

* *Myoporum laetum*—myoporum

SIMAROUBACEAE—QUASSIA OR SIMAROUBA FAMILY

* *Ailanthus altissima*—tree of heaven

SOLANACEAE—NIGHTSHADE FAMILY

* *Datura stramonium*—jimsonweed*
Datura wrightii—sacred thorn-apple
* *Nicotiana glauca*—tree tobacco
Petunia parviflora—seaside petunia
Solanum douglasii—greenspot nightshade

TAMARICACEAE—TAMARISK FAMILY

* *Tamarix ramosissima*—tamarisk

TROPAEOLACEAE—NASTURTIUM FAMILY

* *Tropaeolum majus*—nasturtium

URTICACEAE—NETTLE FAMILY

Hesperocnide tenella—western stingingnettle

Parietaria hespera—rillita pellitory
Urtica dioica ssp. holosericea—stinging nettle

VERBENACEAE—VERVAIN FAMILY

Phyla nodiflora—turkey tangle fogfruit

VIBURNACEAE—MUSKROOT FAMILY

Sambucus mexicana—blue elderberry

Ferns and Fern Allies

MARSILEACEAE—MARSILEA FAMILY

Marsilea vestita ssp. vestita—hairy waterclover

Gymnosperms (Monocots)

PINACEAE – PINE FAMILY

* *Pinus halapensis* – Aleppo pine

AGAVACEAE—AGAVE FAMILY

* *Agave americana*—American century plant

ARECACEAE—PALM FAMILY

* *Phoenix canariensis*—Canary Island date palm
* *Washingtonia robusta*—Washington fan palm

CYPERACEAE—SEDGE FAMILY

Cyperus eragrostis—tall flatsedge
Eleocharis macrostachya—pale spike rush
Eleocharis parishii—Parish's spikerush
Schoenoplectus californicus—California bulrush

JUNCACEAE—RUSH FAMILY

Juncus acutus ssp. leopoldii—southwestern spiny rush
Juncus bufonius—toad rush
Juncus mexicanus—Mexican rush
Juncus xiphioides—irisleaf rush

POACEAE—GRASS FAMILY

* *Arundo donax*—giant reed
* *Avena barbata*—slender oat
* *Brachypodium distachyon*—purple false brome

* *Bromus catharticus var. catharticus*—rescuegrass
* *Bromus diandrus*—ripgut brome
* *Bromus hordeaceus*—soft brome
* *Bromus rubens*—red brome
* *Cortaderia selloana*—Uruguayan pampas grass
* *Cynodon dactylon*—Bermudagrass
  Distichlis spicata—salt grass
* *Ehrharta erecta*—panic veldtgrass
  Elymus condensatus—giant wild rye
* *Festuca myuros*—rat-tail fescue
* *Festuca perennis*—perennial rye grass
* *Hordeum murinum ssp. glaucum*—smooth barley
* *Paspalum dilatatum*—dallisgrass
* *Polypogon interruptus*—ditch rabbitsfoot grass
* *Polypogon monspeliensis*—annual rabbitsfoot grass
* *Schismus barbatus*—common Mediterranean grass
  Sporobolus airoides—alkali sacaton
* *Stipa miliacea var. miliacea*—smilograss

TYPHACEAE—CATTAIL FAMILY

Typha domingensis—southern cattail

* signifies introduced or non-native species

Wildlife Species

Vertebrates

Amphibians

RANIDAE – TONGUELESS FROGS

* *Lithobates catesbeianus* – American bullfrog

Birds

ACCIPITRIDAE—HAWKS, KITES, EAGLES, & ALLIES

Accipiter cooperii—Cooper's hawk

Buteo jamaicensis—red-tailed hawk

Buteo lineatus—red-shouldered hawk

Elanus leucurus—white-tailed kite

AEGITHALIDAE—LONG-TAILED TITS & BUSHTITS

Psaltriparus minimus—bushtit

ALCEDINIDAE – KINGFISHERS

Megaceryle alcyon – belted kingfisher

ANATIDAE—DUCKS, GEESE, & SWANS

Anas platyrhynchos—mallard

Branta canadensis—Canada goose

APODIDAE—SWIFTS

Aeronautes saxatalis—white-throated swift

ARDEIDAE—HERONS, BITTERNS, & ALLIES

Ardea alba—great egret

Ardea herodias—great blue heron

Butorides virescens—green heron

Egretta thula—snowy egret

Nycticorax nycticorax – black-crowned night heron

CARDINALIDAE—CARDINALS & ALLIES

Passerina amoena—lazuli bunting

Pheucticus melanocephalus – black-headed grosbeak

Piranga ludoviciana – western tanager

CATHARTIDAE—NEW WORLD VULTURES

Cathartes aura—turkey vulture

COLUMBIDAE—PIGEONS & DOVES

Zenaida macroura—mourning dove

* *Columbia livia* – rock pigeon, rock dove

CORVIDAE—CROWS & JAYS

Aphelocoma californica - California scrub jay

Corvus brachyrhynchos—American crow

Corvus corax—common raven

ESTRILIDAE – WAXBILLS

* *Lonchura punctulata* – scaly-breasted munia

FALCONIDAE – CARACARAS AND FALCONS

Falco mexicanus – prairie falcon

Falco sparverius – American kestrel

FRINGILLIDAE—FRINGILLINE & CARDUELINE FINCHES & ALLIES

Haemorhous mexicanus—house finch

Spinus psaltria—lesser goldfinch

Spinus tristis—American goldfinch

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow

Petrochelidon pyrrhonota—cliff swallow

Stelgidopteryx serripennis—northern rough-winged swallow

Tachycineta bicolor—tree swallow

Tachycinta thalassina – violet-green swallow

ICTERIDAE—BLACKBIRDS

Agelaius phoeniceus—red-winged blackbird

Icterus bullockii—Bullock's oriole

Icterus cucullatus – hooded oriole

* *Molothrus ater* – brown-headed cowbird

Quiscalus mexicanus—great-tailed grackle

ICTERIIDAE—YELLOW-BREASTED CHAT

Icteria virens—yellow-breasted chat

LARIDAE—GULLS, TERNS, & SKIMMERS

Hydroprogne caspia—Caspian tern
Larus californicus – California gull
Larus occidentalis—western gull
Sterna forsteri—Forster's tern

MIMIDAE—MOCKINGBIRDS & THRASHERS

Mimus polyglottos—northern mockingbird
Toxostoma redivivum—California thrasher

PANDIONIDAE—OSPREYS

Pandion haliaetus—osprey

PARULIDAE—WOOD-WARBLERS

Cardellina pusilla—Wilson's warbler
Geothlypis trichas—common yellowthroat
Setophaga petechia—yellow warbler
Leiothlypis celata—orange-crowned warbler

PASSERELLIDAE—NEW WORLD SPARROWS

Junco hyemalis – dark-eyed junco
Melospiza melodia—song sparrow
Melozone crissalis—California towhee
Pipilo maculatus—spotted towhee
Zonotrichia leucophrys – white-crowned sparrow

PHALACROCORACIDAE—CORMORANTS

Nannopterum auritum—double-crested cormorant

PICIDAE—WOODPECKERS & ALLIES

Colaptes auratus – northern flicker
Dryobates nuttallii—Nuttall's woodpecker
Dryobates pubescens—downy woodpecker

POLIOPTILIDAE—GNATCATCHERS

Polioptila caerulea – blue grey gnatcatcher
Polioptila californica californica—coastal California gnatcatcher

PTILOGONATIDAE – SILKY FLYCATCHERS

Phainopepla nitens – phainopepla

RALLIDAE – RAILS, GALLINULES & COOTS

Fulica americana – American coot

STRIGIDAE – TRUE OWLS

Athene cunicularia – burrowing owl

STURNIDAE—STARLINGS

* *Sturnus vulgaris*—European starling

SYLVIIDAE – SYLVIID WARBLERS

Chamaea fasciata – wrentit

THRESKIORNITHIDAE—IBISES & SPOONBILLS

Plegadis chihi—white-faced ibis

TROCHILIDAE—HUMMINGBIRDS

Archilochus alexandri – black-chinned hummingbird
Calypte anna — Anna's hummingbird
Calypte costae – Costa's hummingbird
Selasphorus rufus—rufous hummingbird
Selasphorus sasin—Allen's hummingbird

TROGLODYTIDAE—WRENS

Vistothorus palustris – marsh wren
Thryomanes bewickii—Bewick's wren
Troglodytes aedon—northern house wren

TURNIDAE – THRUSHES

Sialia mexicana – western bluebird

TYRANNIDAE—TYRANT FLYCATCHERS

Contopus sordidulus – western wood peewee
Empidonax difficilis – pacific slope flycatcher
Myiarchus cinerascens—ash-throated flycatcher
Sayornis nigricans—black phoebe
Sayornis saya—Say's phoebe
Tyrannus verticalis—western kingbird
Tyrannus vociferans—Cassin's kingbird
Empidonax difficilis—western flycatcher

VIREONIDAE—VIREOS

Vireo bellii pusillus—least Bell's vireo

ZOSTEROPIDAE – WHITE EYES

* *Zosterops japonicus* – warbling white eye

Mammals

CANIDAE—WOLVES & FOXES

Canis latrans—coyote

DIDELPHIDAE – NEW WORLD OPOSSUMS

* *Didelphis virginiana* – Virginia opossum

GEOMYIDAE – POCKET GOPHERS

Thomomys bottae – Botta's pocket gopher

LEPORIDAE—HARES & RABBITS

Sylvilagus audubonii—desert cottontail

Sylvilagus bachmani – brush rabbit

SCIURIDAE—SQUIRRELS

Otospermophilus beecheyi—California ground squirrel

Reptiles

ANGUIDAE—ALLIGATOR LIZARDS

Elgaria multicarinata—southern alligator lizard

EMYDIDAE—BOX & WATER TURTLES

* *Trachemys scripta*—pond slider

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard

Uta stansburiana—common side-blotched lizard

Invertebrates

Butterflies

NYMPHALIDAE—BRUSH-FOOTED BUTTERFLIES

Danaus plexippus—monarch

Nymphalis antiopa – mourning cloak

PAPILIONIDAE—SWALLOWTAILS

Papillio eurymedon – pale swallowtail

Papilio rutulus—western tiger swallowtail

PIERIDAE—WHITES & SULFURS

Pieris rapae—cabbage white

Pontia protodice – checkered white

* signifies introduced (non-native) species

Appendix B

Special-Status Plants with a Potential to Occur

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Abronia maritima	red sand-verbena	None/None/4.2	Coastal dunes/perennial herb/Feb–Nov/ 0–330	Not expected to occur. No suitable vegetation or substrate present. Not observed during focused rare plant surveys conducted in 2020, and as such, is considered absent from the project site.
Abronia villosa var. *aurita*	chaparral sand-verbena	None/None/1B.1	Chaparral, Coastal scrub, Desert dunes; Sandy/annual herb/(Jan)Mar–Sep/ 245–5,245	Although suitable coastal scrub and chaparral habitats with sandy substrates are present, this species was not observed during focused rare plant surveys conducted in 2020. As such, it is considered absent from the project site.
Aphanisma blitoides	aphanisma	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/annual herb/ Feb–June/5–1,000	Although suitable coastal scrub and chaparral with sandy soil is present, this species was not observed during focused rare plant surveys conducted in 2020. As such, it is considered absent from the project site.
Astragalus hornii var. *hornii*	Horn's milk-vetch	None/None/1B.1	Meadows and seeps, Playas; Alkaline, Lake Margins/annual herb/May–Oct/ 195–2,785	Not expected to occur. The site is outside of the species' known elevation range. Not observed during focused rare plant surveys conducted in 2020, and as such, is considered absent from the project site.
Astragalus pycnostachyus var. *lanosissimus*	Ventura Marsh milk-vetch	FE/SE/1B.1	Coastal dunes, Coastal scrub, Marshes and swamps/perennial herb/ (June)Aug–Oct/5–115	Although suitable coastal scrub and coastal marsh habitat on site, not observed during focused plant surveys conducted in 2020 and is considered absent from the project site.
Atriplex coulteri	Coulter's saltbush	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; Alkaline (sometimes), Clay (sometimes)/perennial herb/Mar–Oct/ 10–1,505	Although suitable coastal scrub and alkaline habitat is present, not observed during focused rare plant surveys conducted in 2020. As such, is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Atriplex pacifica	south coast saltscale	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Playas/annual herb/ Mar–Oct/0–460	Although suitable coastal scrub habitat present, not observed during 2020 focused rare plant surveys and as such, is considered absent from the project site.
Atriplex parishii	Parish's brittlescale	None/None/1B.1	Chenopod scrub, Playas, Vernal pools; Alkaline/annual herb/June–Oct/ 80–6,230	Although suitable vernal pool and alkaline habitat is present, not observed during 2020 focused rare plant surveys and is considered absent from the project site.
Atriplex serenana var. *davidsonii*	Davidson's saltscale	None/None/1B.2	Coastal bluff scrub, Coastal scrub; Alkaline/annual herb/Apr–Oct/35–655	Although suitable coastal scrub habitat present, this species was not observed during 2020 focused rare plant surveys and as such, is considered absent from the project site.
Calochortus catalinae	Catalina mariposa lily	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/perennial bulbiferous herb/(Feb)Mar–June/50–2,295	Although suitable coastal scrub habitat present, this species was not observed during 2020 focused rare plant surveys and as such, is considered absent from the project site.
Calochortus weedii var. *intermedius*	intermediate mariposa-lily	None/None/1B.2	Chaparral, Coastal scrub, Valley and foothill grassland; Rocky/perennial bulbiferous herb/May–July/345–2,805	Not expected to occur. The site is outside of the species' known elevation range. Not observed during focused rare plant surveys conducted in 2020, and as such, is considered absent from the project site.
Calystegia felix	lucky morning-glory	None/None/1B.1	Meadows and seeps, Riparian scrub; Alkaline (sometimes), Loam (sometimes), Silt (sometimes)/annual rhizomatous herb/Mar–Sep/100–705	Although suitable riparian scrub present, this species was not observed during 2020 focused rare plant surveys and as such, is considered absent from the project site.
Camissoniopsis lewisii	Lewis' evening-primrose	None/None/3	Cismontane woodland, Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; Clay (sometimes), Sandy (sometimes)/annual herb/Mar–May(June)/0–985	**Observed on site during 2020 focused rare plant surveys.**

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Centromadia parryi ssp.*australis*	southern tarplant	None/None/1B.1	Marshes and swamps, Valley and foothill grassland, Vernal pools/annual herb/May–Nov/0–1,570	**Observed on site during 2020 and 2025 focused rare plant surveys.**
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	None/None/1B.1	Coastal bluff scrub, Coastal dunes/annual herb/Jan–Aug/0–330	Not expected to occur. No suitable vegetation present. Not observed during focused rare plant surveys conducted in 2020, and as such, is considered absent from the project site.
Chloropyron maritimum ssp.*maritimum*	salt marsh bird's-beak	FE/SE/1B.2	Coastal dunes, Marshes and swamps/annual herb (hemiparasitic)/ May–Oct(Nov)/0–100	Although suitable marsh habitat present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Cistanthe maritima	seaside cistanthe	None/None/4.2	Coastal bluff scrub, Coastal scrub, Valley and foothill grassland; Sandy/annual herb/(Feb)Mar–June(Aug)/15–985	Although suitable sandy substrate and coastal scrub habitat is present, this species was not observed during 2020 focused rare plant surveys .As such, it is considered absent from the project site.
Comarostaphylis diversifolia ssp.*diversifolia*	summer holly	None/None/1B.2	Chaparral, Cismontane woodland/ perennial evergreen shrub/Apr–June/ 100–2,590	Although suitable chaparral habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Convolvulus simulans	small-flowered morning-glory	None/None/4.2	Chaparral, Coastal scrub, Valley and foothill grassland; Clay, Seeps, Serpentinite/annual herb/Mar–July/ 100–2,425	Although suitable chaparral habitat is present, this species was not observed during 2020 focused rare plant surveys .As such, it is considered absent from the project site.
Deinandra paniculata	paniculate tarplant	None/None/4.2	Coastal scrub, Valley and foothill grassland, Vernal pools; Sandy (sometimes), Vernally Mesic (usually)/ annual herb/(Mar)Apr–Nov/80–3,080	Although suitable coastal scrub, vernal pools, and sandy substrate is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Dichondra occidentalis	western dichondra	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/perennial rhizomatous herb/(Jan)Mar–July/165–1,640	Not expected to occur. The site is outside of the species' known elevation range. Not observed during focused rare plant surveys conducted in 2020, and as such, is considered absent from the project site.
Dudleya multicaulis	many-stemmed dudleya	None/None/1B.2	Chaparral, Coastal scrub, Valley and foothill grassland; Clay (often)/perennial herb/Apr–July/50–2,590	Although suitable coastal scrub and chaparral habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Dudleya stolonifera	Laguna Beach dudleya	FT/ST/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland; Rocky/perennial stoloniferous herb/May–July/35–855	Although suitable coastal scrub and chaparral habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Eleocharis parvula	small spikerush	None/None/4.3	Marshes and swamps/perennial herb/(Apr)June–Aug(Sep)/5–9,905	Although suitable marsh habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Eriastrum densifolium ssp.*sanctorum*	Santa Ana River woollystar	FE/SE/1B.1	Chaparral, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/ perennial herb/Apr–Sep/300–2,000	Not expected to occur. The site is outside of the species' known elevation range. Not observed during focused rare plant surveys conducted in 2020, and as such, is considered absent from the project site.
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/SE/1B.1	Coastal scrub, Valley and foothill grassland, Vernal pools; Mesic/ annual/perennial herb/Apr–June/ 65–2,030	Although suitable coastal scrub and vernal pool habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Euphorbia misera	cliff spurge	None/None/2B.2	Coastal bluff scrub, Coastal scrub, Mojavean desert scrub; Rocky/perennial shrub/(Oct)Dec–Aug/35–1,640	Although suitable coastal scrub habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Harpagonella palmeri	Palmer's grapplinghook	None/None/4.2	Chaparral, Coastal scrub, Valley and foothill grassland; Clay, Openings/annual herb/Mar–May/65–3,130	Although suitable chaparral habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Helianthus nuttallii ssp.*parishii*	Los Angeles sunflower	None/None/1A	Marshes and swamps/perennial rhizomatous herb/Aug–Oct/35–5,000	Although suitable marsh habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Hordeum intercedens	vernal barley	None/None/3.2	Coastal dunes, Coastal scrub, Valley and foothill grassland, Vernal pools/annual herb/Mar–June/15–3,280	Although suitable vernal pools and coastal scrub habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Horkelia cuneata var. *puberula*	mesa horkelia	None/None/1B.1	Chaparral, Cismontane woodland, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/perennial herb/ Feb–July(Sep)/230–2,655	Not expected to occur. The site is outside of the species' known elevation range.
Isocoma menziesii var. *decumbens*	decumbent goldenbush	None/None/1B.2	Chaparral, Coastal scrub/perennial shrub/Apr–Nov/35–445	Suitable chaparral habitat is present. While this species was not observed during 2020 focused rare plant surveys **it was observed during 2025 focused rare plant surveys.**
Iva hayesiana	San Diego marsh-elder	None/None/2B.2	Marshes and swamps, playas/perennial herb/Apr-Oct/35-1,640	**Observed on site during 2020 focused rare plant surveys.**
Juglans californica	Southern California black walnut	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland/ perennial deciduous tree/Mar–Aug/ 165–2,950	**Observed on site during 2020 focused rare plant surveys.**
Juncus acutus ssp.*leopoldii*	southwestern spiny rush	None/None/4.2	Coastal dunes, Marshes and swamps, Meadows and seeps/perennial rhizomatous herb/(Mar)May–June/ 10–2,950	**Observed on site during 2020 and 2025 focused rare plant surveys.**

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Lasthenia glabrata ssp.*coulteri*	Coulter's goldfields	None/None/1B.1	Marshes and swamps, Playas, Vernal pools/annual herb/Feb–June/5–4,000	Although suitable vernal pools and marsh habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None/None/4.3	Chaparral, Coastal scrub/annual herb/ Jan–July/5–2,900	Although suitable chaparral and coastal scrub habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Lycium californicum	California box-thorn	None/None/4.2	Coastal bluff scrub, Coastal scrub/perennial shrub/ Mar–Aug(Dec)/15–490	Although suitable coastal scrub habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Malacothrix saxatilis var. *saxatilis*	cliff malacothrix	None/None/4.2	Coastal bluff scrub, Coastal scrub/ perennial rhizomatous herb/ Mar–Sep/10–655	Although suitable coastal scrub habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Nama stenocarpa	mud nama	None/None/2B.2	Marshes and swamps/annual/perennial herb/Jan–July/15–1,640	**Observed on site during 2020 focused rare plant surveys.**
Nasturtium gambelii	Gambel's water cress	FE/ST/1B.1	Marshes and swamps/perennial rhizomatous herb/Apr–Oct/15–1,080	Although suitable marsh habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Navarretia prostrata	prostrate vernal pool navarretia	None/None/1B.2	Coastal scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; Mesic/annual herb/Apr–July/ 10–3,965	Although vernal pools and coastal scrub habitat are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Nemacaulis denudata var. *denudata*	coast woolly-heads	None/None/1B.2	Coastal dunes/annual herb/Apr–Sep/ 0–330	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Orcuttia californica	California Orcutt grass	FE/SE/1B.1	Vernal pools/annual herb/Apr–Aug/ 50–2,165	Although vernal pools are present, this species was not observed during 2020 focused rare plant surveys and is considered absent from the project site.
Pentachaeta aurea ssp.*allenii*	Allen's pentachaeta	None/None/1B.1	Coastal scrub, Valley and foothill grassland/annual herb/Mar–June/ 245–1,705	Not expected to occur. The site is outside of the species' known elevation range. Although suitable coastal scrub habitat is present, this species was not observed on site during 2020 focused rare plant surveys and is considered absent from the project site.
Phacelia ramosissima var. *austrolitoralis*	south coast branching phacelia	None/None/3.2	Chaparral, Coastal dunes, Coastal scrub, Marshes and swamps; Rocky (sometimes), Sandy/perennial herb/Mar–Aug/15–985	Although suitable marsh, chaparral, and coastal scrub habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Phacelia stellaris	Brand's star phacelia	None/None/1B.1	Coastal dunes, Coastal scrub/annual herb/Mar–June/5–1,310	Although suitable marsh, chaparral, and coastal scrub habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Quercus dumosa	Nuttall's scrub oak	None/None/1B.1	Chaparral, Closed-cone coniferous forest, Coastal scrub; Clay, Loam, Sandy/ perennial evergreen shrub/ Feb–Apr(May–Aug)/50–1,310	Although suitable chaparral and coastal scrub habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Romneya coulteri	Coulter's matilija poppy	None/None/4.2	Chaparral, coastal scrub; burned areas (often)/perennial rhizomatous herb/Mar-July(Aug)/65-3,935	**Observed during 2020 focused rare plant surveys.**
Sagittaria sanfordii	Sanford's arrowhead	None/None/1B.2	Marshes and swamps/perennial rhizomatous herb (emergent)/May–Oct(Nov)/0–2,130	Although suitable marsh habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Senecio aphanactis	chaparral ragwort	None/None/2B.2	Chaparral, Cismontane woodland, Coastal scrub; Alkaline (sometimes)/ annual herb/Jan–Apr(May)/50–2,620	Although suitable chaparral and coastal scrub habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Sidalcea neomexicana	salt spring checkerbloom	None/None/2B.2	Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Playas; Alkaline, Mesic/perennial herb/Mar–June/50–5,015	Although suitable chaparral and alkaline habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Suaeda esteroa	estuary seablite	None/None/1B.2	Marshes and swamps/perennial herb/(Jan–May)July–Oct/0–15	Although suitable marsh habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Suaeda taxifolia	woolly seablite	None/None/4.2	Coastal bluff scrub, Coastal dunes, Marshes and swamps/perennial evergreen shrub/Jan–Dec/0–165	Although suitable marsh habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Symphyotrichum defoliatum	San Bernardino aster	None/None/1B.2	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Marshes and swamps, Meadows and seeps, Valley and foothill grassland; Streambanks/perennial rhizomatous herb/July–Nov/5–6,690	Although suitable marsh and coastal scrub habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Verbesina dissita	big-leaved crownbeard	FT/ST/1B.1	Chaparral, Coastal scrub/perennial herb/(Mar)Apr–July/150–675	Not expected to occur. The site is outside of the species' known elevation range. Not observed during 2020 focused rare plant surveys and is considered absent from the project site.

Appendix C

Special-Status Wildlife with a Potential to Occur

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Amphibians				
Spea hammondii	western spadefoot	None/SSC	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	Although suitable habitat present, not observed on site during any biological surveys conducted from 2019-2022 and no occurrence records within 5 miles (CDFW 2022). As such this species is considered absent from the project site.
Birds				
Accipiter cooperii (nesting)	Cooper's hawk	None/WL	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	**Observed on site during biological surveys conducted from 2019-2025.**
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberrry; forages in grasslands, woodland, and agriculture	Although suitable cattail marshes suitable for nesting are present, not observed on site during any biological surveys and no occurrence records within 5 miles (CDFW 2022). Surveys conducted in the area for this species in the past have been negative. As such this species is considered absent from the project site.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	Although suitable coastal scrub present, not observed on site during any biological surveys conducted from 2019-2022 and no occurrence records within 5 miles (CDFW 2022). As such this species is considered absent from the project site.
Ammodramus savannarum (nesting)	grasshopper sparrow	None/SSC	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches	Although there are few areas of open grassland with scattered shrubs on site, not observed during any biological surveys conducted from 2019-2022 and closest occurrence record is 5 miles away (CDFW 2022). As such this species is considered absent from the project site.
Ardea herodias (nesting colony)	great blue heron	None/None	Nests in large trees or snags; forages in wetlands, water bodies, watercourses, and opportunistically in uplands, including pasture and croplands	**Observed on site during biological surveys conducted from 2019-2025.**

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Athene cunicularia (burrow sites and some wintering sites)	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	**Incidentally observed within the study area during the 2019 jurisdictional delineation. Observed within the study area (outside of the project site boundary) during 2020 focused surveys. Not observed during 2025 focused surveys.**
Buteo regalis (wintering)	ferruginous hawk	None/WL	Winters and forages in open, dry country, grasslands, open fields, agriculture	Although there is limited open grassland and open field on site, none observed during any biological surveys conducted from 2019-2022 and no occurrence records within 5 miles (CDFW 2022). As such this species is considered absent from the project.
Buteo swainsoni (nesting)	Swainson's hawk	None/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	Although limited open woodland is present, not observed on site during any biological surveys conducted from 2019-2022 and no occurrence records within 5 miles (CDFW 2022). As such this species is considered absent from the project site.
Campylorhynchus brunneicapillus sandiegensis (San Diego and Orange Counties only)	coastal cactus wren	None/SSC	Southern cactus scrub patches	Although limited cacti are present, not observed on site during any biological surveys conducted from 2019-2022 and no occurrence records within 5 miles (CDFW 2022). As such this species is considered absent from the project site.
Charadrius nivosus nivosus (nesting)	western snowy plover	FT, BCC/SSC	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	Suitable vegetation adjacent to wetlands present; however there is no suitable nesting habitat and the knonw locations of snowy plover in the area are restricted to Huntington Beach and Bolsa Chica State Beach. Not observed on site during any biological surveys conducted from 2019-2022, and as such, is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	There is no suitable dense woodland or forest present and no occurrence records within 5 miles of the project site. Not observed during focused special-status riparian bird surveys or other biological surveys conducted from 2019-2022. As such, this species is considered absent from the project site.
Coturnicops noveboracensis	yellow rail	BCC/SSC	Nesting requires wet marsh/sedge meadows or coastal marshes with wet soil and shallow, standing water	The project site lacks wetland meadows to support this species. Although limited coastal marsh is present, this species was not observed during any of the biological surveys conducted from 2019-2022 and as such, is considered absent from the project site.
Elanus leucurus (nesting)	white-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	**Observed on site during biological surveys conducted from 2019-2022.**
Eremophila alpestris actia	California horned lark	None/WL	This subspecies of horned lark occurs on the state's southern and central coastal slope and in the San Joaquin Valley. Nests and forages in grasslands, disturbed lands, agriculture, and beaches.	Not expected to occur. No suitable grassland or agriculture present. No known occurrence records within 5 miles, and not observed on site during any of the biological surveys conducted from 2019-2022. As such, this species is considered absent from the project site.
Falco mexicanus (nesting)	prairie falcon	BCC/WL	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nests on cliffs or bluffs.	**Observed on site during biological surveys conducted from 2019-2022 and again during 2025 surveys.**
Falco peregrinus anatum (nesting)	American peregrine falcon	FPD/FP, SCD	Nests on cliffs, buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present	Suitable foraging habitat within riparian areas; however, there are no cliffs or buildings suitable for nesting. No known occurrence records within 5 miles (CDFW 2022), and not observed on site during any of the biological surveys conducted from 2019-2022. As such, this species is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Icteria virens (nesting)	yellow-breasted chat	None/SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	**Observed on site during biological surveys conducted from 2019-2025.**
Laterallus jamaicensis coturniculus	California black rail	None/FP, ST	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	Suitable tidally-influenced marshland present and occurrence records are within 5 miles of the project site. However, this species was not observed during any of the biological surveys conducted from 2019-2022 and is considered absent from the project site.
Pandion haliaetus (nesting)	osprey	None/WL	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast	**Observed on site during biological surveys conducted from 2019-2025.**
Passerculus sandwichensis beldingi	Belding's savannah sparrow	BCC/SE	Nests and forages in coastal saltmarsh dominated by pickleweed (Salicornia spp.)	Suitable pickleweed mats present, and occurrence records for this species are within 5 miles of the project site (CDFW 2022). However, not observed during any of the biological surveys conducted from 2019-2022 and is considered absent from the project site.
Polioptila californica californica	coastal California gnatcatcher	FT/SSC	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level	**Observed on site during biological surveys conducted from 2019-2022. Not observed during 2025 focused surveys.**
Rallus obsoletus levipes	Ridgway's rail	FE/FP, SE	Coastal wetlands, brackish areas, coastal saline emergent wetlands	Suitable coastal wetlands on site do not function as naturally tidally-influenced wetlands that could support foraging or nesting for this species. There are occurrence records for this species within 5 miles of the site (CDFW 2022). Not observed during the biological surveys conducted between 2019-2022 and is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Riparia riparia (nesting)	bank swallow	None/ST	Nests in riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration	Suitable riparian habitat on site; however, no vertical banks or cliffs with sandy soil suitable for nesting. CNDDB occurrences are within 5 miles of the project site (CDFW 2022). However, not observed on site during any of the biological surveys conducted between 2019-2022. As such, this species is considered absent from the project site.
Rynchops niger (nesting colony)	black skimmer	BCC/SSC	Nests on barrier beaches, shell banks, spoil islands, and saltmarsh; forages over open water; roosts on sandy beaches and gravel bars	Suitable foraging habitat; however there is no beach, bank, or island suitable for nesting. Observed adjacent to the project site in 2012 during previous surveys (Dudek 2012). No known occurrence records within 5 miles of the project site (CDFW 2022). Not observed during any of the biological surveys conducted from 2019-2022 and as such, this species is considered absent from the project site.
Setophaga petechia (nesting)	yellow warbler	None/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	**Observed on site during biological surveys conducted from 2019-2022 and in 2025.**
Sternula antillarum browni (nesting colony)	California least tern	FE/FP, SE	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Tidal flats on site could support foraging and nesting for this species. Observed adjacent to the project site in 2012 (Dudek 2012). However, not observed on site during any of the biological surveys conducted from 2019-2022; as such, this species is considered absent from the project site.
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	**Observed on site during 2020 focused surveys and 2025 focused surveys.**

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Fishes				
Catostomus santaanae	Santa Ana sucker	FT/None	Small, shallow, cool, clear streams less than 7 meters (23 feet) in width and a few centimeters to more than a meter (1.5 inches to more than 3 feet) in depth; substrates are generally coarse gravel, rubble, and boulder	Not expected to occur. No suitable streams on site and no known occurrences within 5 miles (CDFW 2022).
Eucyclogobius newberryi	tidewater goby	FE/None	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River	Not expected to occur. There are no suitable brackish habitats on site and no known occurrence records within 5 miles (CDFW 2022).
Oncorhynchus mykiss irideus pop. 10	southern steelhead - southern California DPS	FE/SCE	Clean, clear, cool, well-oxygenated streams; needs relatively deep pools in migration and gravelly substrate to spawn	This species is known to occur within the Santa Ana River, which lies immediately west of the project site. Not expected to occur within the project site as no suitable streams or gravelly substrate are present.
Invertebrates				
Bombus crotchii	Crotch bumble bee	None/C	Open grassland and scrub communities supporting suitable floral resources	Suitable open scrub habitat present on site. However, this species prefers more arid and dry habitats. Not observed during any of the biological surveys conducted from 2019-2022 nor in the 2025 focused survey. As such, this species is considered absent from the project site.
Danaus plexippus	monarch	FC/None	Wind-protected tree groves with nectar sources and nearby water sources	Suitable eucalyptus groves and native vegetation on site could support foraging opportunities for this species. While not observed on site during biological surveys conducted from 2019-2022, the specie was observed during the 2025 surveying effort (no overwintering colonies were detected on the project site). As such, this species is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Euphydryas editha quino	quino checkerspot butterfly	FE/SCE	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include *Plantago erecta, Antirrhinum coulterianum*, and *Plantago patagonica* (Silverado Occurrence Complex)	Although suitable coastal scrub is present, no host plants on site and no occurrence records within 5 miles of the project site (CDFW 2022). Not observed during any biological surveys conducted from 2019-2022. As such, this species is considered absent from the project site.
Streptocephalus woottoni	Riverside fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	**Vernal pool habitat present. Nearest occurrence record is located immediately east of the project site in Fairview Park (CDFW 2022). Focused Fairy Shrimp surveys were not conducted as this species is assumed present.**
Mammals				
Choeronycteris mexicana	Mexican long-tongued bat	None/SSC	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon–juniper woodland; roosts in caves, mines, and buildings	No suitable desert scrub or caves present, and no occurrence records within 5 miles of the project site (CDFW 2022). As such, this species is considered absent from the project site.
Dasypterus xanthinus	western yellow bat	None/SSC	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	Not expected to occur. No suitable desert wash habitat present. No occurrence records within 5 miles of the project site (CDFW 2022). As such, this species is considered absent from the project site.
Eumops perotis californicus	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	Suitable coastal scrub and woodland for foraging and roosting present. Occurrence records from an unknown date are approximately 5 miles northwest of the project site (CDFW 2022). Although not observed during any diurnal biological surveys conducted from 2019-2022, night roost surveys would be required to confidently consider this species absent from the project site.
Microtus californicus stephensi	south coast marsh vole	None/SSC	Tidal marshes	Suitable tidal marsh present but no occurrence records within 5 miles of the project site (CDFW 2022). Not observed during any biological surveys conducted from 2019-2022. As such, this species is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Nyctinomops macrotis	big free-tailed bat	None/SSC	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	Not expected to occur. Limited roosting habitat (trees) and foraging habitat (Victoria Pond) on site. No occurrence records within 5 miles of the project site (CDFW 2022). Not observed during biological surveys conducted from 2019-2022. As such, it is considered absent from the project site,
Perognathus longimembris pacificus	Pacific pocket mouse	FE/SSC	fine-grained sandy substrates in open coastal strand, coastal dunes, and river alluvium	No suitable habitat present and no occurrence records within 5 miles of the project site (CDFW 2022). Not observed during any biological surveys conducted from 2019-2022. As such, pacific pocket mouse is considered absent from the project site.
Sorex ornatus salicornicus	southern California saltmarsh shrew	None/SSC	Saltmarsh, saltgrass, dense willow, bulrush	Although suitable saltgrass, American bulrush, and saltmarsh habitat is present, this species was not observed on site during any biological surveys conducted from 2019-2022. Nearest occurrence record is 3 miles east, from 1993. As such, southern California saltmarsh shrew is considered absent from the project site.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. Dense stands of coastal scrub and limited open areas. American badger was not observed on site during any biological surveys conducted from 2019-2022. Nearest occurrence record is 2 miles southeast, from 1998 (CDFW 2022). As such, this species is considered absent from the project site.
Reptiles				
Anniella stebbinsi	southern California legless lizard	None/SSC	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation and moist sandy or loose, loamy soils	Although suitable riparian woodlands present, no suitable substrate and no occurrence records within 5 miles of the project site. Not observed during biological surveys conducted from 2019-2022. As such, it is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Aspidoscelis hyperythra	orange-throated whiptail	None/WL	Low-elevation coastal scrub, chaparral, and valley–foothill hardwood	Although suitable low-elevation coastal scrub is present, nearest occurrence record is historic (1950) and 5 miles southwest of the project site. Not observed during biological surveys conducted from 2019-2022. As such, it is considered absent from the project site.
Chelonia mydas	green sea turtle	FT/None	Shallow waters of lagoons, bays, estuaries, mangroves, eelgrass, and seaweed beds	Not expected to occur. No suitable aquatic habitat present and no occurrence records within 5 miles of the project site (CDFW 2022).
Crotalus ruber	red diamondback rattlesnake	None/SSC	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	Although coastal scrub is present, no occurrence records within 5 miles and not observed during biological surveys conducted from 2019-2022. As such, tis species is considered absent from the project site.
Emys marmorata	western pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Not expected to occur. Although Victoria Pond could support this species, no occurrence records within 5 miles and not observed during biological surveys conducted from 2019-2022. As such, this species is considered absent from the project site.
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats	Not expected to occur. No suitable vegetation present and site is not suitably arid. No occurrence records within 5 miles of the project site (CDFW 2022).

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Appendix D

Coastal California Gnatcatcher
Focused Survey Results Report

DUDEK
38 NORTH MARENGO AVENUE
PASADENA, CALIFORNIA 91101
T 626.204.9800 F 626.204.9834

July 15, 2025 13230.67

U.S. Fish and Wildlife Service
Attn: Recovery Permit Coordinator
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: 2025 Focused California Gnatcatcher Survey 45-Day Report for the Talbert Regional Park Master Plan Project, City of Costa Mesa, Orange County, California

Dear Recovery Permit Coordinator:

This report documents the method and results of protocol-level presence/absence surveys conducted for the coastal California gnatcatcher (*Polioptila californica californica*; CAGN). Focused surveys were conducted throughout all areas of suitable habitat for the Talbert Regional Park Master Plan Project (project) located in the City of Costa Mesa, Orange County, California (Attachment A: Figure 1). The project site totals approximately 180 acres and is located at coordinates: 33.652176, -117.949693. The proposed project includes restoration efforts within the existing park, that is divided into two portions, Talbert North and Talbert South.

As shown in Attachment A: Figure 2, the CAGN survey area consists of approximately 76 acres with suitable CAGN habitat characterized by stands of *Baccharis pilularis-Artemisia californica, Encelia californica-Artemisia californica-Salvia mellifera-Baccharis pilularis, Baccharis salicifolia-Sambucus mexicana,* and coyote bush scrub, and surrounded by a 500-foot survey buffer, for a total survey area of approximately 278 acres. The survey area included additional habitat types not typically suited for supporting nesting CAGN, however, due to previously observed occurrences of CAGN within these atypical habitat areas, the survey area was expanded to additional habitats not dominated by California sagebrush. Dudek's permitted biologist Tommy Molioo (ES02412D) conducted CAGN surveys from May 2025 to June 2025.

The CAGN is federally-listed as threatened and a California Department of Fish and Wildlife (CDFW) Species of Special Concern. It is closely associated with coastal sage scrub habitat and typically occurs below 950 feet elevation and on slopes less than 40% (Atwood 1990), but CAGN have also been observed at elevations greater than 2,000 feet. The species is primarily threatened by loss, degradation, and fragmentation of coastal sage scrub habitat, and is also impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism (Braden et al. 1997).

Location and Existing Conditions

The project site is located along the northern edge of the City of Costa Mesa in Orange County, California. The surrounding area is primarily developed with the concrete-lined Santa Ana River running along the western edge of the survey area, and residential developments to the east and south. Restored wetland and riparian habitat occurs within the adjacent Fairview Regional Park and Banning Ranch to the immediate east and south, respectively, as well as within both Talbert North and Talbert South. The survey area consists of moderate quality coastal scrub

vegetation intersected by paved and dirt roads, with scattered riparian and salt marsh scrub, and fields of black mustard (*Brassica nigra*) and other non-native species.

Six soil types, listed below, are mapped within the survey area (USDA NRCS 2019). The majority of the soils mapped within the survey area are sandy loam and show evidence of surface-level disturbance.

- Bolsa silt loam
- Hueneme fine sandy loam
- Hueneme fine sandy loam, drained
- Metz loamy sand, moderately fine substratum
- Myford sandy loam, 9 to 30 percent slopes, eroded
- Pits

Vegetation Communities

The survey area for the project site includes a total of approximately 278 acres, encompassing both Talbert North and Talbert South, including a 500-foot buffer around approximately 76 acres of suitable habitat characterized by native upland scrub vegetation with scattered riparian vegetation communities. Vegetation communities that provide suitable CAGN habitat on the survey area that were included in the focused surveys include: California brittle bush-California sagebrush-black sage-coyote brush, coyote brush scrub, Coyote brush-California sagebrush, Menzies's golden bush scrub, and mulefat-blue elderberry. These vegetation communities are discussed in detail below.

California Brittle Bush-California Sagebrush-Black Sage-Coyote Brush Association

California brittle bush-California sagebrush-black sage-coyote (*Encelia californica-Artemisia californica-Salvia mellifera-Baccharis salicifolia*) brush is an association within the California brittle bush alliance (Sawyer et al. 2009). Within the study area, this community occurs along the western boundary of Talbert North.

Coyote Brush Scrub Alliance

The coyote brush scrub alliance (*Baccharis pilularis* scrub alliance) includes coyote brush as dominant or co-dominant in the canopy. The alliance has a variable canopy less than 3 feet (1 meter) in height with variable herbaceous layer (Sawyer et al. 2009). Some species associated with the alliance include California sagebrush, California buckwheat (*Eriogonum fasciculatum*), common deerweed (*Acmispon glaber* var. *glaber*), white sage (*Salvia apiana*), and purple sage (*Saliva leucophylla*) (Sawyer et al. 2009). Within the study area, this community occurs throughout Talbert North.

Coyote Brush-California Sagebrush Association

Coyote brush-California sagebrush association is an association within the coyote brush alliance (Sawyer et al. 2009). Within the study area, this community occurs within the northwestern corner of Talbert North.

Menzies's Golden Bush Scrub Alliance

The Menzies's golden bush scrub alliance (*Isocoma menziesii* scrub alliance) includes Menzies's golden bush as dominant or co-dominant in the canopy. The alliance has an open to intermittent shrub canopy less than 3 feet (1

meter) in height with an open to continuous herbaceous layer (Sawyer et al. 2009). Some species associated with the alliance include California saltbush (*Atriplex californica*), desertbroom (*Baccharis sarothroides*), San Joaquin snakeweed (*Gutierrezia californica*), and Virginia glasswort (*Salicornia depressa*) (Sawyer et al. 2009). Within the study area, this community occurs throughout Talbert South.

Mulefat-Blue Elderberry Association

The mulefat-blue elderberry (*Baccharis salicifolia-Sambucus nigra*) association has mulefat and blue elderberry as the co-dominant species in the shrub canopy (Sawyer et al. 2009). Within the survey area, this community was found throughout Talbert North.

Table 1. Vegetation Communities and Land Covers within the Project Site

Vegetation Community or Land Cover	Association	Map Label	Acreages
Forest and Woodland Alliances			
Arroyo willow	Salix lasiolepis	Sallas	5.81
Arroyo willow/mulefat	Salix lasiolepis/Baccharis salicifolia	Sallas/Bacsal	3.99
Black willow	Salix gooddingii	Salgoo	6.39
Black willow/mulefat	Salix gooddingii/Baccharis salicifolia	Salgoo/Bacsal	10.39
Blue elderberry-toyon	Sambucus nigra-Heteromeles arbutifolia	Samnig-Hetarb	5.05
California fan palm oasis	—	CFPO	0.12
California sycamore-coast live oak	Platanus racemosa-Quercus agrifolia	Plarac-Queagr	3.99
Eucalyptus groves	—	EG(SNS)	1.66
Mulefat thickets	—	MFT	23.76
Mulefat-blue elderberry	Baccharis salicifolia-Sambucus mexicana	Bacsal-Sammex	44.21
Mulefat-Menzies' goldenbush-quailbush	Baccharis salicifolia-Lepidospartum squamatum-Hazardia squarrosa	Bacsal-Isomen-Atrlen	7.20
White alder-California sycamore	Alnus rhombifolia-Platanus racemosa	Alnrho-Plarac	0.68
	Subtotal of Forest and Woodlands Alliances and Stands		*113.26*
Shrubland and Grassland Alliances			
Alkali heath/salt grass	Frankenia salina/Distichlis spicata	Frasal/Disspi	2.83
American bulrush marsh	—	ABM	0.83
Black mustard-ripgut brome	Brassica nigra-Bromus diandrus	BM-RB	2.17
California brittle bush-California sagebrush-black sage-coyote brush	Encelia californica-Artemisia californica-Salvia mellifera-Baccharis pilularis	Enccal-Artcal-Salmel-Bacpil	13.68
Cattail marshes	—	CM	0.45
Coyote brush scrub	—	CYS	16.76
Coyote brush-California sagebrush	Baccharis pilularis-Artemisia californica	Bacpil-Artcal	1.51
Ice plant mats	—	IPM(SNS)	2.07

Table 1. Vegetation Communities and Land Covers within the Project Site

Vegetation Community or Land Cover	Association	Map Label	Acreages
Menzies's golden bush scrub	—	MGBS	17.58
Pickleweed mats	—	PM	1.72
Poison hemlock or fennel patches	—	PH-FP(SNS)	1.54
Quailbush scrub	—	QS	2.28
Salt grass-Pacific swampfire	Distichlis spicata-Sarcocornia pacifica	Disspi-Sarpac	16.46
Smartweed-cocklebur patches	—	S-CP	0.61
Tar plant fields	—	TPF	0.50
Upland mustards	—	UM(SNS)	34.55
		Subtotal of Shrubland Alliance and Stands	*115.53*
Non-Natural Land Covers and Unvegetated Communities			
Bassia hyssopifolia	—	Bassia	1.62
Concrete channel	—	CC	2.06
Disturbed Habitat	—	DH	28.37
Myoporum/Black willow	—	MP/Salgoo	3.08
Open water	—	OW	88.59
Parks and ornamental plantings	—	ORN	35.15
Urban/Developed	—	DEV	85.37
		Subtotal of Non-Natural Land Covers and Unvegetated Communities	*244.23*
		Total	**473.02**

Methods

The presence/absence focused survey for CAGN was conducted for the project between May 1, 2025, and June 5, 2025. The survey was conducted within weather conditions and time frames appropriate for the detection of gnatcatchers. Weather conditions and survey dates are provided below in Table 2. Survey routes are shown in Attachment A – Figure 2. The survey routes focused on areas that contain typical suitable habitat to support CAGN (i.e. artemisia dominated scrub) as well as additional vegetation types that would not typically support CAGN but were included in the survey area due to the observation of foraging and dispersing CAGN within these vegetation types.

Table 2 Survey Dates and Conditions

Survey Pass	Date	Time	Personnel	Temperature[1]	Presence/Absence
1	05/01/2025	0730–1000	TM	65-67°F; 1-2 mph; 100% cc	Absent
2	05/8/2025	0900-1100	TM	66°F; 1-2 mph; 0% cc	Absent

Table 2 Survey Dates and Conditions

Survey Pass	Date	Time	Personnel	Temperature[1]	Presence/Absence
3	05/15/2025	0845–1045	TM	62°F; 1-3 mph; 50% cc	Absent
4	05/22/2025	1000-1130	TM	65°F; 0-1 mph; 50% cc	Absent
5	05/29/2025	1000-1130	TM	69°F; 0-1 mph; 70% cc	Absent
6	06/05/2025	0830-1000	TM	65°F; 1-2 mph; 100% cc	Absent

1 Survey Conditions: °F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour

The survey was conducted following the currently accepted protocol of the U.S. Fish and Wildlife Service (USFWS), *Coastal California Gnatcatcher* (*Polioptila californica californica*) *Presence/Absence Survey Protocol* (USFWS 1997). The project site is located within the Orange County Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) and the project Applicant, the County of Orange, is a signatory to the NCCP/HCP. While this allows for three survey passes to be conducted, Dudek conducted six survey passes at a minimum of 7-day intervals between visits during the breeding season (March 14 through June 30). The six surveys were conducted in order to be consistent with agency protocol and provide an extended period to survey for CAGN. In accordance with the protocol, no more than 100 acres of suitable habitat were surveyed by a single permitted biologist during each site visit conducted. Survey routes completely covered all areas of suitable CAGN habitat within the survey area and allowed for complete audible and visual coverage of all suitable CAGN habitat on site (Attachment A: Figure 2).

A 200-scale topographic map (1 inch = 200 feet) overlain with vegetation polygons and the survey area was used during the survey. Additionally, digital mobile maps were utilized during the surveys to assist in navigating each survey area. Appropriate binoculars (e.g., 8x42 through 10x50 magnification) were used to aid in detecting and identifying bird species. A recording of gnatcatcher vocalizations was played approximately every 50–100 feet to induce responses from potentially present gnatcatchers. Vocalization-playback would have been terminated immediately upon detection of any gnatcatchers to minimize the potential for harassment.

Results

No CAGN individuals were observed or detected during the 2025 breeding season surveys. Previously, approximately three CAGN breeding pairs and two lone males were observed and detected within the survey area during 2020 focused surveys. This is a noticeable change in CAGN occupancy on the project site, particularly since vegetative cover and diversity has remained relatively unchanged since 2020. Additionally, the extended six survey period allowed Dudek's biologist to survey the site over an extended period of time from previous surveys. No active nesting was observed within the survey area during the focused surveys. Therefore, the project site is currently considered unoccupied by CAGN, however, the potential for CAGN to nest on site in the future remains high.

Other avian species observed during the focused surveys include: spotted towhee (*Pipilo maculatus*), song sparrow (*Melospiza melodia*), house wren (*Troglodytes aedon*), lesser goldfinch (*Spinus psaltria*), bushtit (*Psaltriparus*

minimus), house finch (*Haemorhous mexicanus*), Anna's hummingbird (*Calypte anna*), Allen's hummingbird (*Selasphorus sasin*), northern rough-winged swallow (*Stelgidopteryx serripennis*), California towhee (*Melozone crissalis*), white-throated swift (*Aeronautes saxatalis*), northern flicker (*Colaptes auratus*), great-tailed grackle (*Quiscalus mexicanus*), Nuttall's woodpecker (*Dryobates nuttallii*), dark-eyed junco (*Junco hyemalis*), barn swallow (*Hirundo rustica*), yellow warbler (*Setophaga petechia*), orange-crowned warbler (*Leiothlypis celata*), mallard (*Anas platyrhynchos*), red-winged blackbird (*Agelaius phoeniceus*), belted kingfisher (*Megaceryle alcyon*), white-faced ibis (*Plegadis chihi*), common yellowthroat (*Geothlypis trichas*), western tanager (*Piranga ludoviciana*), and Canada goose (*Branta canadensis*).

Other wildlife species observed during the surveys include California ground squirrel (*Otospermophilus beecheyi*), desert cottontail (*Sylvilagus audubonii*), and coyote (*Canis latrans*).

I certify that the information in this survey report and attached exhibits fully and accurately represent our work.

Sincerely,

Tommy Molioo
Permit # ES02412D

Att: *A –Figures*
B – Site Photographs

References

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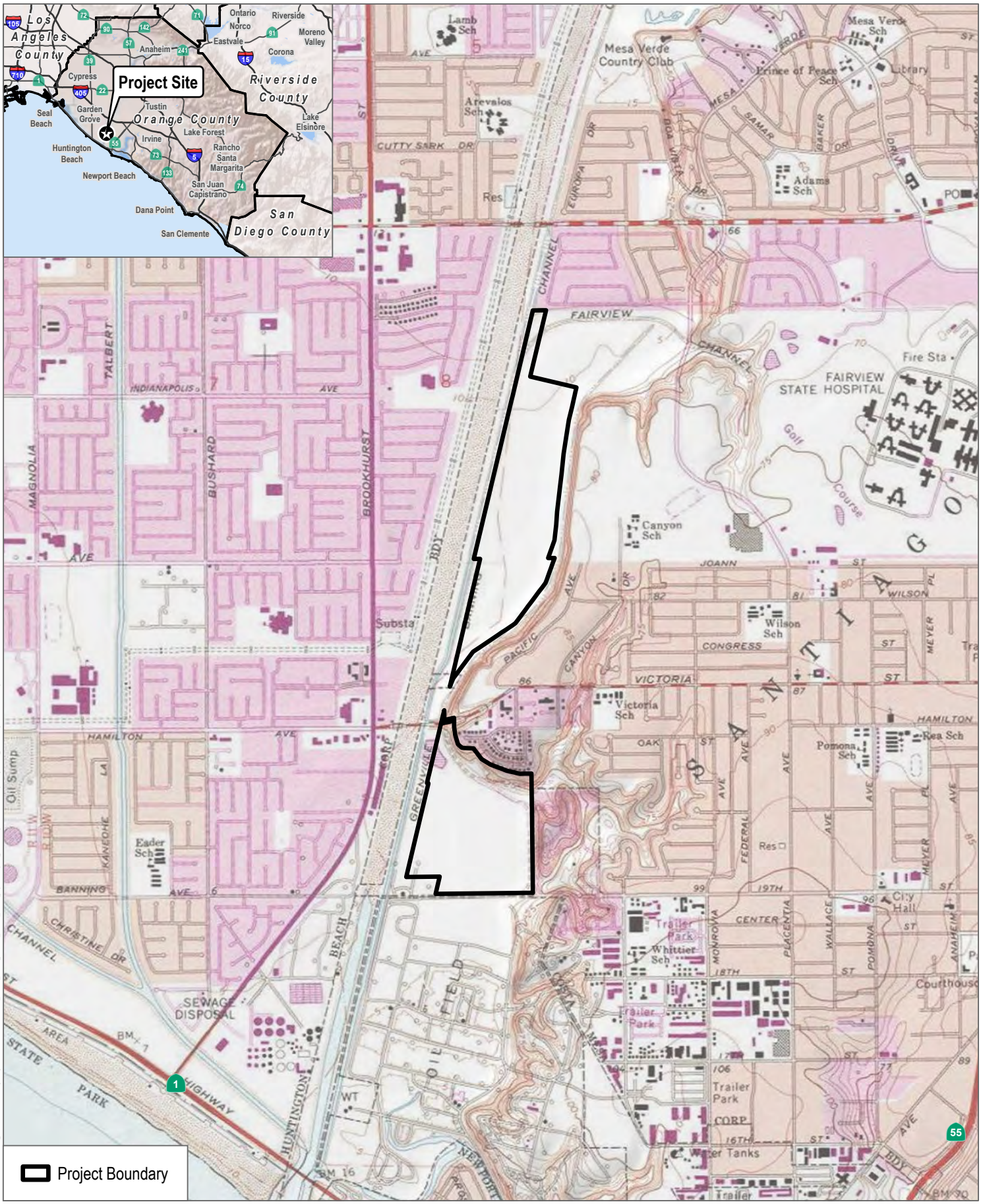
Attachment A

Figures



SOURCE: USGS 7.5-Minute Series Newport Beach Quadrangle
Township 6 S / Range 10 W / Sections 8, 17, 20

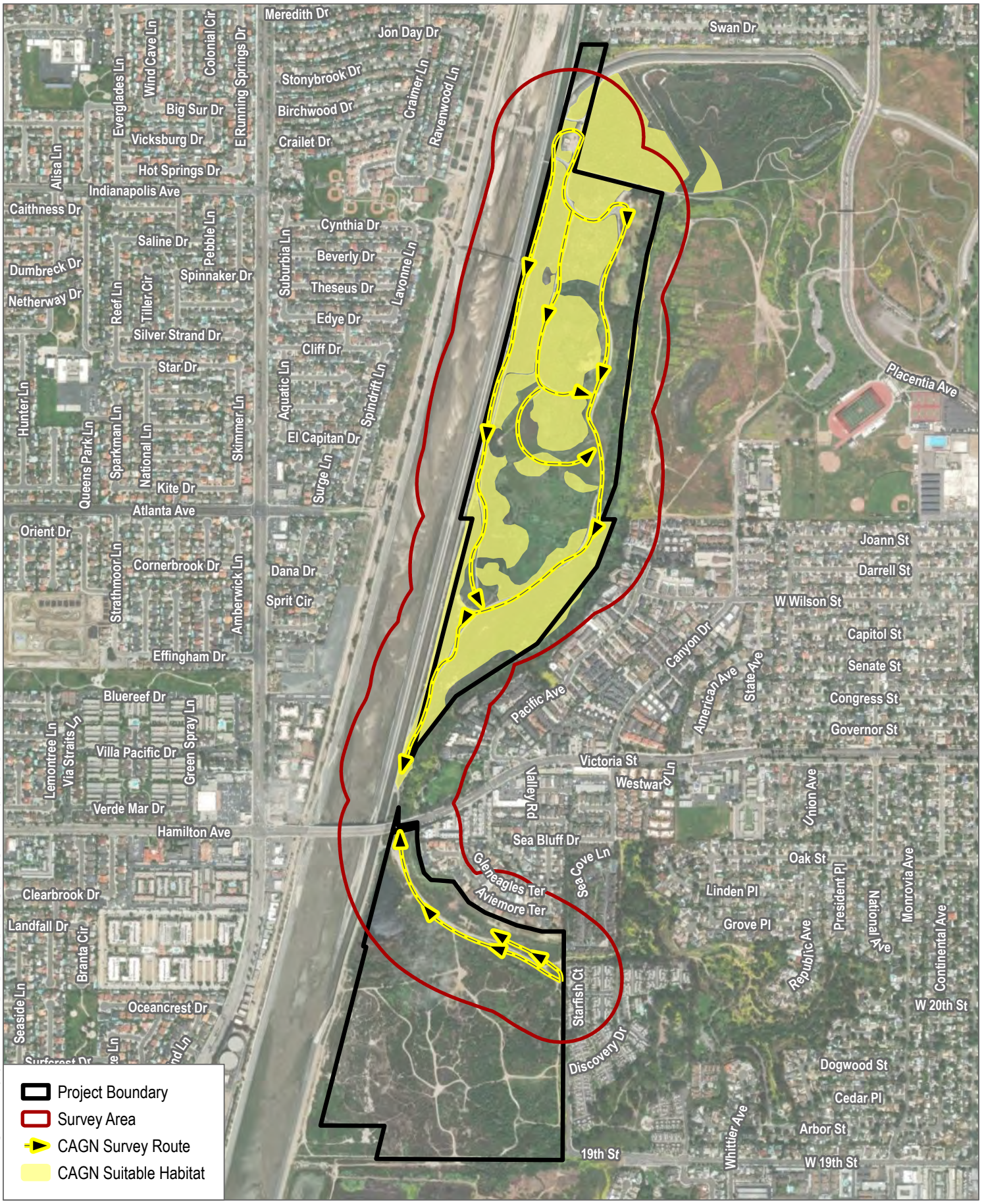
DUDEK

0 300 600 Meters
0 1,000 2,000 Feet

FIGURE 1

Project Location Map

Talbert Regional Park



SOURCE: Esri basemap; Open Street Map 2023

DUDEK

0 500 1,000 Feet

FIGURE 2

CAGN Survey Map

Talbert Regional Park

Attachment B

Site Photographs

Attachment B
Photo Documentation

Photo 1: Taken near the center of Talbert South, facing northeast. Note bassia in foreground and mulefat, willows, and eucalyptus in background.

Photo 2: Taken from northwest portion of Talbert North, facing east towards mulefat scrub in foreground.

Photo 3: Taken from the north-central portion of Talbert North, facing south towards coyote brush scrub with goldenbush and saltbush.

Photo 4: Taken near the central portion of Talbert North, facing southwest towards goldenbush and mulefat scrub.

Appendix E

Least Bell's Vireo and Southwestern Willow Flycatcher Focused Survey Results Report

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August 4, 2025 13230.67

U.S. Fish and Wildlife Service
Attn: Recovery Permit Coordinator
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: Focused Least Bell's Vireo and Southwestern Willow Flycatcher Survey Report for the Talbert Regional Park Master Plan Project, City of Costa Mesa, Orange County, California

Dear Recovery Permit Coordinator:

This report documents the results of eight protocol-level presence/absence surveys for the state- and federally listed endangered least Bell's vireo (*Vireo bellii pusillus*), and five protocol-level presence/absence surveys for the state- and federally listed endangered southwestern willow flycatcher (*Empidonax traillii extimus*). The surveys were conducted in all areas of suitable least Bell's vireo and southwestern willow flycatcher habitat.

The southwestern willow flycatcher and least Bell's vireo are closely associated with riparian habitats, especially densely vegetated willow scrub and riparian forest vegetation. These species are threatened primarily by loss, degradation, and fragmentation of riparian habitats. They also are impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism.

1 Location and Existing Conditions

The Talbert Regional Park Master Plan Project (project) is located along the northern edge of the City of Costa Mesa in Orange County, California. The surrounding area is primarily developed with the concrete-lined Santa Ana River running along the western edge of the survey area, and residential developments to the east and south. Previously restored wetland and riparian habitat occurs within the adjacent Fairview Regional Park and Banning Ranch to the immediate east and south. The survey area consists of moderate to high quality riparian forest, woodland, and scrub vegetation. There is, however, high human activity within the study area including pedestrians, bicyclists, and homeless encampments within a network of dirt roads and trails.

2 Vegetation Communities

Vegetation communities identified within the study area as potentially suitable habitat for the southwestern willow flycatcher and/or least Bell's vireo include: arroyo willow, arroyo willow/mulefat, black willow, black willow/ mulefat, black willow thickets, blue elderberry-toyon, California fan palm oasis, California sycamore-coast live oak, mulefat thickets, mulefat-blue elderberry, mulefat-menzies' goldenbush-quailbush, and white alder-California sycamore

Arroyo Willow Alliance

The arroyo willow (*Salix lasiolepis*) thickets alliance includes arroyo willow as the dominant or co-dominant tree in the canopy. The alliance has an open to continuous tree canopy less than 65 feet (20 meters) in height with an open to intermittent shrub canopy and a variable ground layer (Sawyer et al. 2009). Species associated with the alliance include white alder (*Alnus rhombifolia*), coyote brush (*Baccharis pilularis*), mulefat (*Baccharis salicifolia*), California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), blue elderberry (*Sambucus nigra*), and other willows (Sawyer et al. 2009). Within the study area, this community occurs throughout the central and eastern portions of Talbert north.

Arroyo Willow/Mulefat Association

Arroyo willow/mulefat association is an association within the arroyo willow thickets alliance, which consists of arroyo willow and mulefat as co-dominant species in the canopy (Sawyer et al. 2009). Within the study area, this community occurs throughout the southeastern portions of this site and a smaller community on the northeastern area of Talbert north.

Black Willow Alliance

The black willow thickets alliance (*Salix gooddingii* thickets alliance) includes black willow (*Salix gooddingii*) as the dominant or co-dominant tree in the canopy. The alliance has an open to continuous tree canopy less than 100 feet (30 meters) in height with an open to continuous shrub canopy, and variable ground layer (Sawyer et al. 2009). Species associated with the alliance include white alder, Fremont cottonwood, blue elderberry, red willow (*Salix laevigata*), arroyo willow, and shining willow (*Salix lucida* ssp. *lasiandra*) (Sawyer et al. 2009). Associated shrubs include coyote brush and mulefat (Sawyer et al. 2009). Within the study area, this community occurs on the northwestern and southeastern portions of Talbert south.

Black Willow/Mulefat Association

Black willow/mulefat (*Salix gooddingii/Baccharis salicifolia*) association is an association found within the black willow alliance, which consists of black willow and mulefat as co-dominant species within the canopy (Sawyer et al. 2009). Within the study area, this community was found on the northwestern and southern portions of Talbert south.

Black Willow Thickets

Black willow thickets consist of stands of black willows that are dominant in the tall shrub canopy rather than the tree canopy. Black willow thickets with scattered stands of red and arroyo willows occur south of Victoria Pond on Talbert south. This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Blue Elderberry-Toyon Association

The blue elderberry-toyon (*Sambucus nigra-Heteromeles arbutifolia*) association is an association within the blue elderberry alliance that has blue elderberry and toyon (*Heteromeles arbutifolia*) as the co-dominant species (Sawyer et al. 2009). The alliance has a continuous shrub canopy that is less than 26 feet (8 meters) in height. The herbaceous layer is variable and usually grassy. Other species that may occur in this community include: California

sagebrush (*Artemisia californica*), coyote brush, mulefat, bigpod ceanothus (*Ceanothus megacarpus*), bush monkeyflower (*Diplacus aurantiacus*), lemonade berry (*Rhus integrifolia*), and arroyo willow. Emergent trees may be present at low cover, including Southern California black walnut (*Juglans californica*), Fremont cottonwood, and California coast live oak (*Quercus agrifolia*). Within the study area, this community occurs along the northeastern boundary of Talbert north.

California Fan Palm Oasis Alliance

The California fan palm (*Washingtonia filifera*) oasis alliance includes the California fan palm as a dominant or co-dominant species in the tree canopy. In the shrub layer it has an open to intermittent canopy where in the herbaceous layer it is open to continuous and less than 100 feet (30 meters) in height. Species associated with this alliance are white alder, narrow-leaved willow (*Salix exigua*), arroyo willow, black willow, California sycamore, canyon live oak (*Quercus chrysolepis*), Fremont cottonwood, honey mesquite (*Prosopis glandulosa*), saltbushes (*Atriplex* sp.), Emory's baccharis (*Baccharis emoryi*), brittle bush (*Encelia farinosa*), and tamarisk (*Tamarix* sp.) (Sawyer et al. 2019). Within the study area, this community occurs in one area on the northern portion of Talbert south.

California Sycamore-Coast Live Oak Association

The California sycamore-coast live oak is an association within the California sycamore alliance. It is characterized as having California sycamore and coast live oak as co-dominant species in the tree canopy (Sawyer et al. 2009). Other associated species are Southern California black walnut, Fremont cottonwood, Valley oak (*Quercus lobata*), narrow-leaved willow, black willow, red willow, arroyo willow, Peruvian peppertree (*Schinus molle*) and California bay (*Umbellularia californica*). Within the study area, this community occurs within the northeastern corner of Talbert north.

Cattail Marshes Alliance

The cattail marshes alliance (*Typha [angustifolia, domingensis, latifolia]* herbaceous alliance) includes cattails as dominant or co-dominant in the herbaceous layer that is less than 5 feet (1.5 meters). The alliance has an intermittent to continuous cover and consists of a low cover of emergent trees (Sawyer et al. 2009). Cattail marshes occurs on semi-permanently flooded freshwater or brackish marshes. Some species associated with the alliance includes *Schoenoplectus* sp., *Juncus* sp., *Distichlis* sp., and *Salix* sp. Within the study area, this community occurs in one area on the northern boundary of Talbert north.

Mulefat Thickets Alliance

The mulefat (*Baccharis salicifolia* thickets alliance thickets alliance) includes mulefat as the dominant or co-dominant shrub. The community has a continuous shrub canopy with two tiers at less than 7 feet (2 meters) and less than 15 feet (5 meters) in height, a tree layer that may be present at low cover, and a sparse herbaceous layer (Sawyer et al. 2009). Species associated with the alliance include arroyo willow, narrow-leaved willow, California sagebrush, coyote brush, tree tobacco (*Nicotiana glauca*), and laurel sumac (*Malosma laurina*). Other tree species that may be present include California sycamore, Fremont cottonwood, oaks (*Quercus* sp.), and willows (*Salix* sp.) (Sawyer et al. 2009). Within the study area, this community occurs throughout Talbert south.

Mulefat-Blue Elderberry Association

The mulefat-blue elderberry (*Baccharis salicifolia-Sambucus nigra*) association has mulefat and blue elderberry as the co-dominant species in the shrub canopy (Sawyer et al. 2009). Within the study area, this community was found throughout Talbert north.

Mulefat-Menzies' Goldenbush-Quailbush Association

The mulefat-menzies' goldenbush-quailbush association has mulefat, menzies' goldenbush, and quailbush (*Atriplex lentiformis*) as the co-dominant species in the shrub canopy (Sawyer et al. 2009). Within the study area, this community was found centralized in Talbert north and surrounded by other communities like mulefat thickets and quailbush scrub.

White Alder-California Sycamore Association

The white alder-California sycamore (*Alnus rhombifolia-Platanus racemosa*) association is an association within the white alder alliance with white alder and California sycamore as the co-dominant species (Sawyer et al. 2009). Other species that may be associated with this community are: big-leaf maple (*Acer macrophyllum*), Port orford cedar (*Chamaecyparis lawsoniana*), Oregon Ash (*Fraxinus latifolia*), tanoak (*Notholithocarpus densiflorus*), California sycamore, Fremont cottonwood, black cottonwood (*Populus trichocarpa*), Douglas-fir (*Pseudotsuga menziesii*), Valley oak, and willows (*Salix* sp.). Within the study area, this community was found in one area in the southern portion of Talbert north.

3 Methods

Suitable habitat areas within the study area were surveyed eight times for vireo and five times for flycatcher. Flycatcher-permitted wildlife biologist Paul Lemons (Recovery Permit number ES051248) conducted all focused surveys (Table 1). Audio-playback techniques were used to elicit willow flycatcher responses during flycatcher surveys. Focused surveys were initiated on April 23, 2025, and continued through July 26, 2025.

Table 1. Least Bell's Vireo and Southwestern Willow Flycatcher Survey Results

Survey Pass #/ Focus	Date	Biologist	Hours	Conditions (temperature, cloud cover, wind speed)
1-LBVI	4-23-2025	Paul Lemons	5:50 AM–11:00 AM	54–63°F; 100% cc; 0–3 mph wind
2-LBVI	5-6-2025	Paul Lemons	5:45 AM–11:00 AM	56–64°F; 100% cc; 0–4 mph wind
1-SWFL 3-LBVI	5-17-2025	Paul Lemons	5:30 AM–11:00 AM	57–61°F; 100% cc; 0–7 mph wind
4-LBVI	5-28-2025	Paul Lemons	6:00 AM–11:00 AM	58–61°F; 100–80% cc; 1–5 mph wind
2- SWFL	6-1-2025	Paul Lemons	5:30 AM–11:00 AM	64–76°F; 100–70% cc; 0–5 mph wind
3-SWFL 5-LBVI	6-14-2025	Paul Lemons	5:40 AM–11:00 AM	63–69°F; 100% cc; 0–3 mph wind

Table 1. Least Bell's Vireo and Southwestern Willow Flycatcher Survey Results

Survey Pass #/ Focus	Date	Biologist	Hours	Conditions (temperature, cloud cover, wind speed)
6-LBVI	6-25-2025	Paul Lemons	7:00 AM–11:00 AM	64–73°F; 100–0% cc; 0–4 mph wind
4- SWFL	6-29-2025	Paul Lemons	6:00 AM–10:30 AM	62–71°F; 100–10% cc; 0–4 mph wind
5- SWFL	7-6-2025	Paul Lemons	5:45 AM–10:30 AM	63–74°F; 100-0% cc; 0–4 mph wind
7-LBVI	7-16-2025	Paul Lemons	5:45 AM–11:00 AM	64–72°F; 100–60% cc; 0–5 mph wind
8-LBVI	7-26-2025	Paul Lemons	6:00 AM–11:00 AM	63–71°F; 100–40% cc; 0–5 mph wind

Notes: LBVI = least Bell's vireo; SWFL = Southwestern willow flycatcher; cc = cloud cover; mph = miles per hour; °F = degrees Fahrenheit.

As directed by Stacey Love, United States Fish and Wildlife Service (USFWS) former Recovery Permit Coordinator (via email sent on April 27, 2016), surveys for vireo and flycatcher were not conducted concurrently. Due to differences in detectability, surveys were conducted sequentially, with surveys for the flycatcher first (i.e., first thing in the morning) and surveys for the vireo conducted afterwards. Additionally, for linear survey routes within a riparian corridor, flycatchers were surveyed from the starting point to the end, and vireos were surveyed on the way back. The route was arranged to cover all suitable habitat on site (as depicted on Figure 2). A vegetation map (1:2,400 scale; 1 inch=200 feet) of the study area was available to record any detected vireo or flycatcher. Binoculars (10×50) were used to aid in detecting and identifying wildlife species.

The five surveys conducted for flycatcher followed the currently accepted protocol (*A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher* [Sogge et al. 2010]), which states that a minimum of five survey visits is needed to evaluate project effects on flycatchers. It is recommended that one survey is made between May 15 and 31, two surveys between June 1 and June 24, and two surveys between June 25 and July 17. Surveys during the final period (June 25 and July 17) were separated by at least five days. A tape of recorded flycatcher vocalizations was used, approximately every 50 to 100 feet within suitable habitat, to induce flycatcher responses. If a flycatcher had been detected, playing of the tape would have ceased to avoid harassment.

A Section 10(a)(1)(A) permit is not required to conduct presence/absence surveys for vireo. The eight surveys for vireo followed the currently accepted *Least Bell's Vireo Survey Guidelines* (USFWS, 2001), which states that a minimum of eight survey visits should be made to all riparian areas and any other potential vireo habitats between April 10 and July 31. The site visits are required to be conducted at least 10 days apart to maximize the detection of early and late arrivals, females, non-vocal birds, and nesting pairs. Taped playback of vireo vocalizations were not used during the surveys. Surveys were conducted between dawn and noon and were not conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather.

Weather conditions, time of day, and season were appropriate for the detection of flycatcher and vireo (Table 1).

4 Results

No southwestern willow flycatchers were detected. Several least Bell's vireos were detected within the survey area during the 2025 focused survey effort (see Figure 2). Some vireos were observed directly; however most were detected aurally. No vireo nests were discovered during focused surveys, however nesting is likely to occur in at least three areas in the focused survey area in 2025. A total of 50 wildlife species were detected in the study area during focused surveys of the site (Appendix A). In addition, a completed Willow Flycatcher Survey and Detection Form is included as Appendix B. Overview photos of the habitat surveyed are included as Figure 3.

Please feel free to contact me at plemons@dudek.com with questions or if you require additional information.

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Sincerely,

Paul Lemons
Wildlife Biologist

Att: *Figure 1, Project Location*
Figure 2, Survey Results Map
Figure 3, Habitat Photos
A, Wildlife Species Observed on the Project Site
B, Willow Flycatcher Survey and Detection Form
cc: *Tommy Molioo, Dudek*

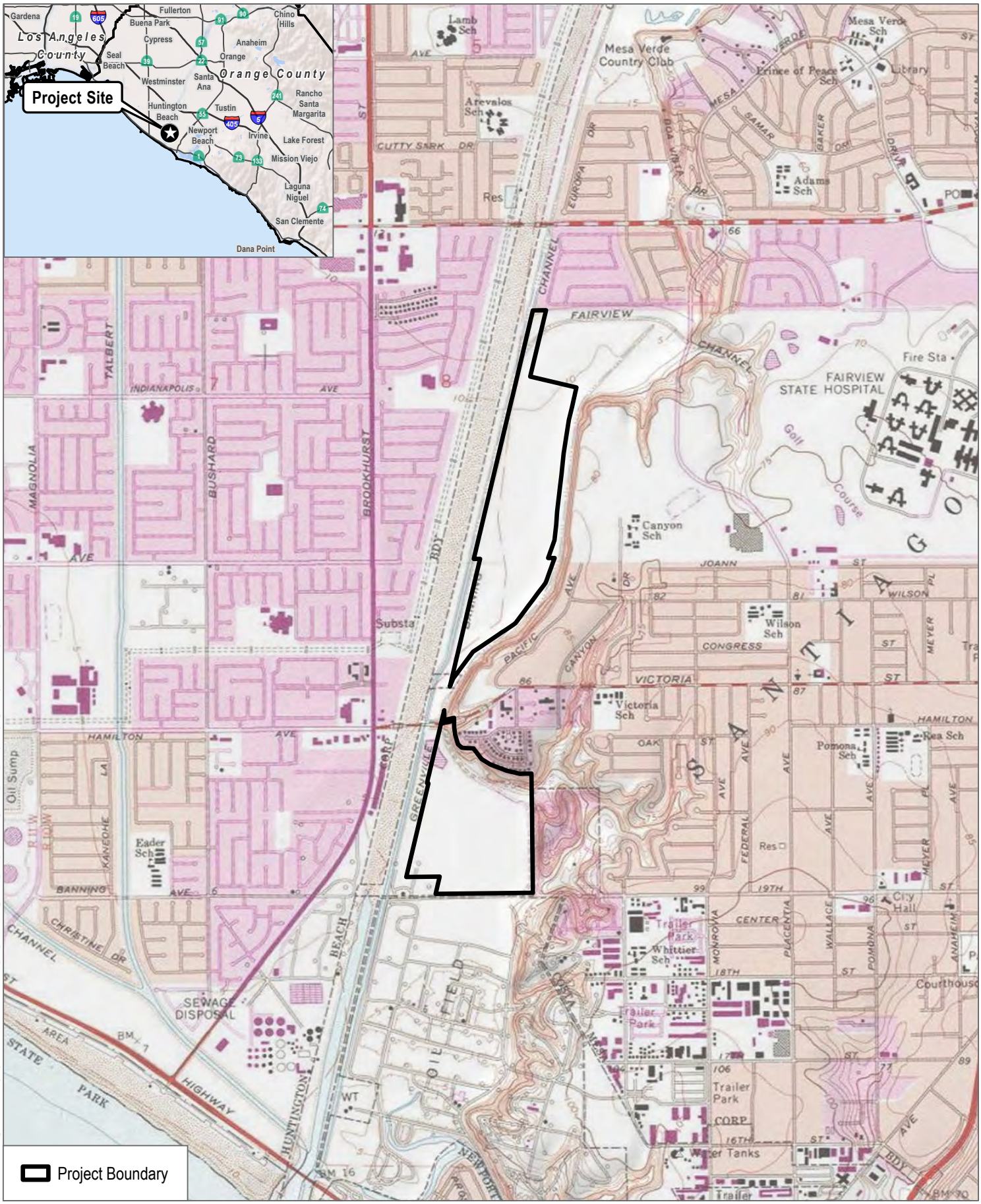
5 References

CDFG. 2010. List of Vegetation Alliances and Associations (Natural Communities List). Sacramento, California: CDFG, Vegetation Classification and Mapping Program. September 2010. http://www.dfg.ca.gov/biogeodata/vegcamp/natural_communities.asp.

Sawyer, J., T. Keeler-Wolf, and J. Evens. 2009. *A Manual of California Vegetation*. Second Edition. Sacramento, California: California Native Plant Society in collaboration with California Department of Fish and Game.

Sogge, M.K., Ahlers, Darrell, and S.J. Sferra. 2010. *A natural history summary and survey protocol for the southwestern willow flycatcher.* U.S. Geological Survey Techniques and Methods 2A-10. 38 p.

USFWS (U.S. Fish and Wildlife Service). 2001. Least Bell's Vireo Survey Guidelines. January 19.



SOURCE: USGS 7.5 Minute Series Newport Beach Quadrangle

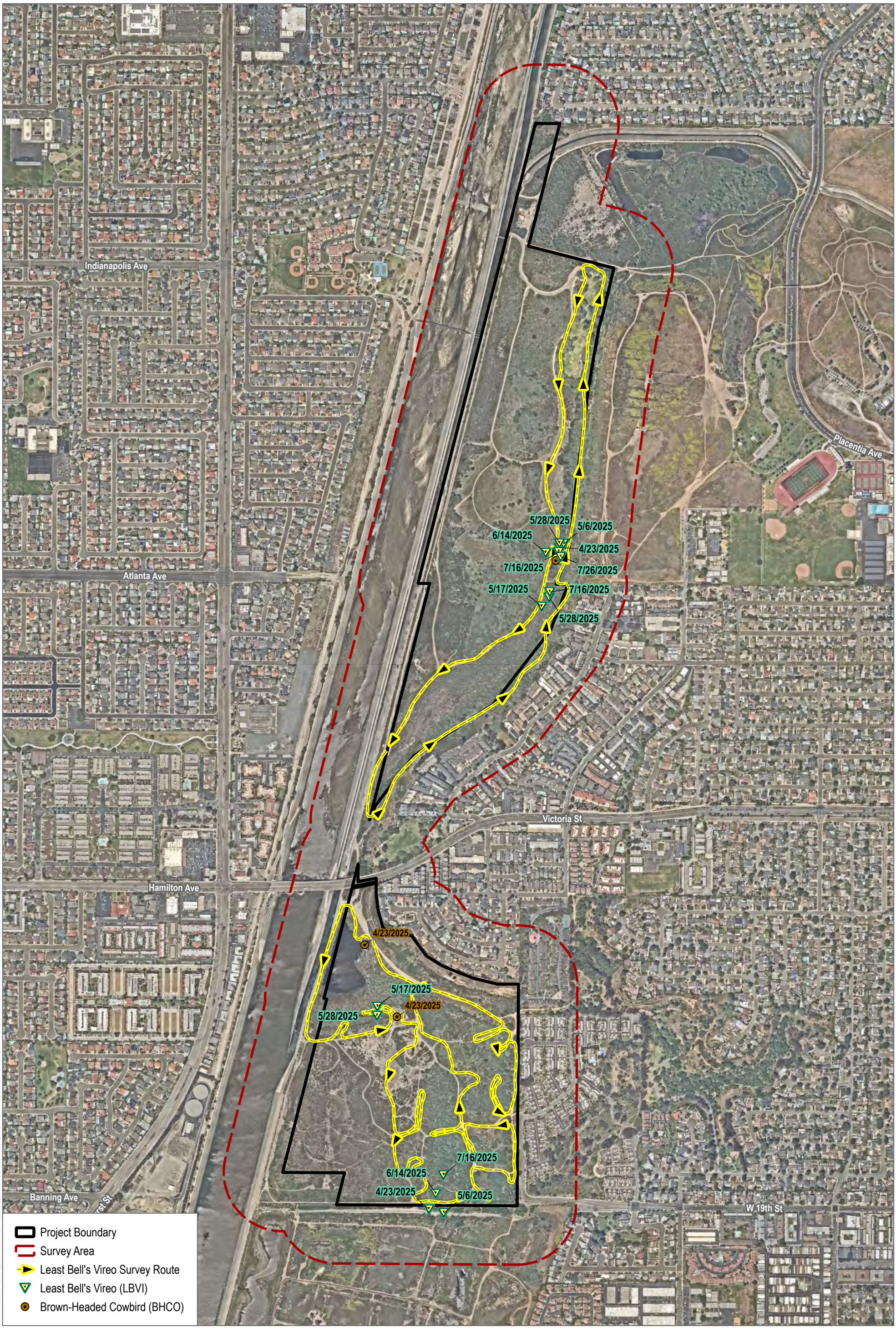
DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

2025 Focused Least Bell's Vireo and Southwestern Willow Flycatcher Survey Report
for the Talbert Regional Park Master Plan Project, City of Costa Mesa, Orange County, California



SOURCE: Nearmap (Accessed 2025); Open Street Map 2023

DUDEK

N

0 355 710 Feet

FIGURE 2

Survey Results Map

2025 Focused Least Bell's Vireo and Southwestern Willow Flycatcher Survey Report for the Talbert Regional Park Master Plan Project, City of Costa Mesa, Orange County, California

Date: 7/30/2025 User: cpontier Path: Z:\Projects\10984\07\MAPDOC\DOCUMENTS\WFL LBVI 2025\TalbertRegionalMPP_SWLF_LBVI.aprx Map Frame 2 Survey Results Map Layout Frame 2 Survey Results Map

FIGURE 3

Habitat Photos

Attachment A

Wildlife Species Observed on the Project Site

Birds

Blackbirds, Orioles and Allies

ICTERIDAE—BLACKBIRDS

Agelaius phoeniceus—red-winged blackbird

Quiscalus mexicanus—great-tailed grackle

* *Molothrus ater*—brown-headed cowbird

Bushtits

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

Cardinals, Grosbeaks and Allies

CARDINALIDAE—CARDINALS AND ALLIES

Piranga ludoviciana—western tanager

Finches

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch

Spinus psaltria—lesser goldfinch

Spinus tristis—American goldfinch

Flycatchers

TYRANNIDAE—TYRANT FLYCATCHERS

Sayornis nigricans—black phoebe

Tyrannus vociferans—Cassin's kingbird

Empidonax difficilis—western flycatcher

Hawks

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Accipiter cooperii—Cooper's hawk

Hummingbirds

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird
Selasphorus rufus—rufous hummingbird
Selasphorus sasin—Allen's hummingbird

Ibises and Spoonbills

THRESKIORNITHIDAE—IBISES AND SPOONBILLS

Plegadis chihi—white-faced ibis

Jays, Magpies and Crows

CORVIDAE—CROWS AND JAYS

Corvus brachyrhynchos—American crow

New World Vultures

CATHARTIDAE—NEW WORLD VULTURES

Cathartes aura—turkey vulture

Pigeons and Doves

COLUMBIDAE—PIGEONS AND DOVES

Zenaida macroura—mourning dove

Rails, Gallinules and Coots

RALLIDAE—RAILS, GALLINULES, AND COOTS

Fulica americana—American coot

Starlings and Allies

STURNIDAE—STARLINGS

* *Sturnus vulgaris*—European starling

Swallows

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow
Stelgidopteryx serripennis—northern rough-winged swallow
Tachycineta bicolor—tree swallow
Tachycineta thalassina—violet-green swallow

Swifts

APODIDAE—SWIFTS

Aeronautes saxatalis—white-throated swift

Terns and Gulls

LARIDAE—GULLS, TERNS, AND SKIMMERS

Sterna forsteri—Forster's tern

Thrushes

TURDIDAE—THRUSHES

Sialia mexicana—western bluebird

Vireos

VIREONIDAE—VIREOS

Vireo bellii pusillus—least Bell's vireo

Waterfowl

ANATIDAE—DUCKS, GEESE, AND SWANS

Anas platyrhynchos—mallard

Wood Warblers and Allies

PARULIDAE—WOOD-WARBLERS

Geothlypis trichas—common yellowthroat
Setophaga petechia—yellow warbler
Leiothlypis celata—orange-crowned warbler

Woodpeckers

PICIDAE—WOODPECKERS AND ALLIES

Dryobates nuttallii—Nuttall's woodpecker
Dryobates pubescens—downy woodpecker

Wrens

TROGLODYTIDAE—WRENS

Cistothorus palustris—marsh wren
Troglodytes aedon—house wren

Waxbills

ESTRILDIDAE—WAXBILLS

* *Lonchura punctulata*—scaly-breasted munia

New World Sparrows

PASSERELLIDAE—NEW WORLD SPARROWS

Junco hyemalis—dark-eyed junco
Melospiza melodia—song sparrow
Melozone crissalis—California towhee
Pipilo maculatus—spotted towhee

Chats

ICTERIIDAE—YELLOW-BREASTED CHAT

Icteria virens—yellow-breasted chat

Invertebrates

Butterflies

NYMPHALIDAE—BRUSH-FOOTED BUTTERFLIES

Danaus plexippus—monarch
Nymphalis antiopa—mourning cloak

PAPILIONIDAE—SWALLOWTAILS

Papilio rutulus—western tiger swallowtail

Mammals

Canids

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

Hares and Rabbits

LEPORIDAE—HARES AND RABBITS

Sylvilagus bachmani—brush rabbit

Pocket Gophers

GEOMYIDAE—POCKET GOPHERS

Thomomys bottae—Botta's pocket gopher

Squirrels

SCIURIDAE—SQUIRRELS

Otospermophilus beecheyi—California ground squirrel

* signifies introduced (non-native) species

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Appendix B

Willow Flycatcher Survey and Detection Form

Appendix 1. Willow Flycatcher Survey and Detection Form

Always check the U.S. Fish and Wildlife Service Arizona Ecological Services Field Office web site (http://www.fws.gov/southwest/es/arizona/) for the most up-to-date version.

Willow Flycatcher (WIFL) Survey and Detection Form (revised April 2010)

Site Name Talbert Regional Park, Master Plan State CA County Orange
USGS Quad Name Newport Beach Elevation 4 (meters)
Creek, River, Wetland, or Lake Name Wetlands associated with Santa Ana River
Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? Yes X No ___

Survey Coordinates: Start: E 412296.46 N 3723000.53 UTM Datum NAD83 (See instructions)
Stop: E 412496.96 N 3725450.19 UTM Zone 11S
If survey coordinates changed between visits, enter coordinates for each survey in comments section on back of this page.
** *Fill in additional site information on back of this page* **

Survey # / Observer(s) (Full Name)	Date (m/d/y) Survey time 2025	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N / If Yes, number of nests	Comments (e.g., bird behavior, evidence of pairs or breeding; potential threats [livestock, cowbirds, *Diorhabda* spp.]). If *Diorhabda* found, contact USFWS and State WIFL coordinator	GPS Coordinates for WIFL Detections (this is an optional column for documenting individuals, pairs, or groups of birds found on each survey). Include additional sheets if necessary.			
Survey # 1 Observer(s) Paul Lemons	Date 5/17 Start 0530 Stop 1100 Total hrs 5.5	0	0	0	0		# Birds	Sex	UTM E	UTM N
Survey # 2 Observer(s) Paul Lemons	Date 6/1 Start 0530 Stop 1100 Total hrs 5.5	0	0	0	0		# Birds	Sex	UTM E	UTM N
Survey # 3 Observer(s) Paul Lemons	Date 6/14 Start 0510 Stop 1100 Total hrs 5.4	0	0	0	0		# Birds	Sex	UTM E	UTM N
Survey # 4 Observer(s) Paul Lemons	Date 6/29 Start 0600 Stop 1030 Total hrs 4.5	0	0	0	0		# Birds	Sex	UTM E	UTM N
Survey # 5 Observer(s) Paul Lemons	Date 7/16 Start 0515 Stop 1030 Total hrs 4.75	0	0	0	0		# Birds	Sex	UTM E	UTM N
Overall Site Summary Totals do not equal the sum of each column. Include only resident adults. Do not include migrants, nestlings, and fledglings. Be careful not to double count individuals. Total Survey Hrs 25.65		Total Adult Residents: 0	Total Pairs: 0	Total Territories: 0	Total Nests: 0	Were any Willow Flycatchers color-banded? Yes ___ No N/A. If yes, report color combination(s) in the comments section on back of form and report to USFWS.				

Reporting Individual Paul Lemons Date Report Completed August 2025
US Fish and Wildlife Service Permit # ES051248 State Wildlife Agency Permit # SC10680

***Submit** form to USFWS and State Wildlife Agency by September 1st. Retain a copy for your records.*

Fill in the following information completely. Submit form by September 1st. Retain a copy for your records.

Reporting Individual Paul Lemons Phone # 858-336-4030
Affiliation Consultant - Dudek E-mail plemons@dudek.com
Site Name Talbert Regional Park Master Plan Date Report Completed Aug 2025

Did you verify that this site name is consistent with that used in previous years? Yes ✓ No ____ Not Applicable ____
If site name is different, what name(s) was used in the past? ____
If site was surveyed last year, did you survey the same general area this year? N/A Yes ____ No ____ If no, summarize below.
Did you survey the same general area during each visit to this site this year? Yes ✓ No ____ If no, summarize below.

Management Authority for Survey Area : Federal____ Municipal/County ____ State ____ Tribal ____ Private ____
Name of Management Entity or Owner (e.g., Tonto National Forest) Orange County Dept of Public Works

Length of area surveyed: 2200 (meters)

Vegetation Characteristics: Mark the category that best describes the predominant tree/shrub foliar layer at this site (check one):

X Native broadleaf plants (entirely or almost entirely, > 90% native, includes high-elevation willow)

____ Mixed native and exotic plants (mostly native, 50 - 90% native)

____ Mixed native and exotic plants (mostly exotic, 50 - 90% exotic)

____ Exotic/introduced plants (entirely or almost entirely, > 90% exotic)

Identify the 2-3 predominant tree/shrub species in order of dominance. Use scientific name.
Baccharis salicifolia, Salix lasiolepis, Salix goodingii

Average height of canopy (Do not include a range): 9 (meters)

Attach copy of USGS quad/topographical map (REQUIRED) of survey area, outlining survey site and location of WIFL detections.
Attach sketch or aerial photo showing site location, patch shape, survey route, location of any WIFLs or WIFL nests detected.
Attach photos of the interior of the patch, exterior of the patch, and overall site; describe any unique habitat features.

Comments (attach additional sheets if necessary)
No WIFL

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM N	UTM E	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)

Attach additional sheets if necessary

Appendix F

Aquatic Resources Delineation Report

DUDEK
3600 LIME STREET, BLDG 2
RIVERSIDE, CALIFORNIA 92501
T 951.300.2100

December 10, 2025 13230

Sheila Cedervall
Senior Landscape Architect
OC Parks, Planning and Design Division
13042 Old Myford Road
Irvine, California 92602

Subject: **Preliminary Jurisdictional Waters Delineation Report for the Talbert Regional Park Master Plan Project, City of Costa Mesa, Orange County, California**

Dear Sheila Cedervall,

This report documents the results of a delineation of potentially jurisdictional waters for the Talbert Regional Park Master Plan Project (project) located in the City of Costa Mesa, California. The approximately 180-acre project site is located to the north and south of Victoria Avenue (Figure 1, Project Location). The study area consists of the proposed project and a 100-foot buffer, totaling approximately 473 acres. This aquatic resources report is intended to (1) describe the existing conditions of jurisdictional waters within the study area, (2) quantify the jurisdictional waters mapped within the study area, and (3) provide a discussion of potential water resource permits required for implementation of the project.

1 Project Location and Description

The proposed project study area is located in Orange County, California, on the grounds of the Talbert Regional Park, owned and operated by the County of Orange (County). The proposed project follows the northern, southern, and western boundary of Talbert Regional Park and the northwestern section of Canyon Park. The study area is located on the U.S. Geological Survey (USGS) 7.5-Minute map, Newport Beach quadrangle, Sections 8, 17 and 20, Township 6 South, and Range 10 West (Figure 2, Local Vicinity). The Principal Meridian of the project is at latitude 33.652176° N and longitude -117.949693°W. The site is approximately 1.5 miles west of State Route 55 (SR-55) and 1.0 mile north of SR-1.

The Park is divided into six separate plant groups, identified as "zones" and based upon the progression of plant groups and changing conditions found along the Santa Ana River. The first zone is designated "Intensive Use Area" and the plant material has been selected based on use instead of its origins on the site. The second zone, a "Border Planting" zone is planted with vegetation designed to maintain boundaries and screen the embankment of the Greenville-Banning Channel. Another zone, the "Coastal Strand" consists of gentle slopes and dunes, a habitat largely destroyed by the advance of civilization in the area. The "Native Grassland" zone is the largest zone in the park and provides opportunities for wildlife habitats. An "Alluvial Woodland" zone contains a wide variety of plant and animal life and is the most secluded area in the park. Finally, the "Wetland Zone" consists of the southern 14.8 acres of the Park and contains elements of riparian woodland and mulefat scrub.

The Park consists of a small active park that allows picnicking and informal recreation, while the trail system allows for observation of natural resources and linkage to other parks up and down stream along the Santa Ana River. Group use within the habitat areas is permitted by guided walks and individual use is facilitated by interpretive signage.

To date, OC Parks has completed the Talbert Regional Park Final Habitat Restoration Plan (Restoration Plan), a planning document that identifies existing park conditions, and provides recommendations for park restoration and passive recreational use. This Plan addresses natural preservation through non-native plant removal, habitat restoration, passive recreation and public use of multiple interest areas (Victoria Pond and a BMX bicycle area). Highlights of the Restoration Plan address the water resources of the Park within South Talbert containing elements of riparian woodland and mulefat scrub, and North Talbert along an area referred to as Placentia Drain. OC Parks intends to use a hybrid of select pieces of the three restoration alternatives (minimal, medium, and maximum touch) detailed in the Restoration Plan, as well as potentially other design ideas that arise during the Master Plan process.

2 Regulatory Background

2.1 Federal Statutes and Regulations – U.S. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, any person or public agency proposing to discharge dredged or fill material into waters of the United States, including jurisdictional wetlands, must obtain a permit from the U.S. Army Corps of Engineers (ACOE). Title 33 of the Code of Federal Regulations, Part 328.3, defines waters of the United States with an amendment published in the Federal Register on June 29, 2015, effective on August 28, 2015. The newly modified Section 328.3(a) defines waters of the United States as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters, including interstate wetlands;
3. The territorial seas;
4. All impoundments of waters otherwise identified as water of the United States under this section;
5. All tributaries, as defined in this section;
6. All waters adjacent to a water identified in 1 through 5 above;
7. Additional waters (as defined in the section) where they are determined, on a case-specific basis, to have a significant nexus to a water in 1 through 3 above.

Please note that the proposed (revised) Clean Water Rule 2025 was released for a 45-day public comment period on November 20, 2025 and the final rule will likely be published in early to mid-2026.

For non-tidal waters of the United States, the lateral limits of ACOE jurisdiction extend to the ordinary high water mark (OHWM) when no adjacent wetlands are present. As defined in 33 Code of Federal Regulations 328.3(c)(6), the OHWM is “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving, changes in the character of soil,

destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." If adjacent wetlands are present, the jurisdiction extends to the limit of the wetlands.

Wetlands are "those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3). Wetlands are jurisdictional if they meet this definition as well as the definition of waters of the United States. Three criteria must be satisfied to classify an area as a wetland under ACOE jurisdiction: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology). The ACOE uses the methodology in the Regional Supplements to the Corps of Engineers Wetland Delineation Manual to determine whether an area meets these three criteria. In the project area, the supplement for the Arid West Region (ACOE 2008a) is used.

ACOE-Regulated Activities

Under Section 404 of the Clean Water Act, the ACOE regulates activities that involve a discharge of dredged or fill material, including but not limited to grading, placing riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material into waters of the United States. Activities that generally do not involve a regulated discharge (if performed specifically in a manner to avoid discharges) include driving pilings, providing some drainage channel maintenance activities, and excavating without stockpiling.

2.2 State Statutes and Regulations – Regional Water Quality Control Board

The State of California has concurrent jurisdiction with the federal government over Section 401 Water Quality Certification for jurisdictional waters and wetlands of the United States. Where isolated waters and wetlands (not subject to federal jurisdiction) are involved, the state will exert independent jurisdiction via the Porter-Cologne Water Quality Control Act.

Section 401 of the Clean Water Act

Section 401 of the Clean Water Act requires that any applicant for a federal permit for activities that involve a discharge to waters of the United States shall provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal Clean Water Act. Therefore, in California, before the ACOE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification or waiver from the Regional Water Quality Control Board (RWQCB).

Under Section 401 of the Clean Water Act, the RWQCB regulates at the state level all activities that are regulated at the federal level by ACOE.

Porter-Cologne Water Quality Control Act

The RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state" (California Water Code, Section 13260(a)), pursuant to provisions of the state Porter-Cologne Water Quality Control Act. "Waters of the state" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050(e)).

Under the Porter-Cologne Water Quality Control Act, the RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into waters of the state, that are not regulated by the ACOE due to a lack of connectivity with a navigable water body.

2.3 State Statutes and Regulations – California Department of Fish and Wildlife

The California Fish and Game Code, Sections 1600–1616, mandates that "it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity."

California Department of Fish and Wildlife (CDFW) jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources. Furthermore, CDFW jurisdiction extends to riparian habitat and may include oak woodlands in canyon bottoms. Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear, but reemerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdictional. CDFW does not have jurisdiction over ocean or shoreline resources.

Under the California Fish and Game Code, Sections 1600–1616, CDFW has the authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake. CDFW also has the authority to regulate work that will deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all projects.

2.4 State Statutes and Regulations – California Coastal Commission

The California Coastal Commission (CCC) regulates activities within wetlands in the coastal zone. The Coastal Act Section 30121 (California Coastal Act as of January 1, 2005) defines wetlands as "lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens". Subsequent Statewide Interpretive guidelines has refined the definition based upon the U.S. Fish and Wildlife Service definition (Cowardin et al. 1979),

which is as follows: "Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For the purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes, (2) the substrate is predominantly undrained hydric soil, and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year." This definition is used as a guide for defining wetlands. The Coastal Commission can also rely on other information, advice and judgment of other experts in determining jurisdiction.

3 Methods

3.1 Literature Review

The following available resources were reviewed to assess the potential for jurisdictional waters:

- aerial photographs (Google Earth 2019; Historic Aerials 2019);
- the U.S. Geological Survey 7.5-minute topographic quadrangle (USGS 2019);
- a Natural Resources Conservation Service soil map (USDA 2019a);
- U.S. Environmental Protection Agency Watershed Assessment, Tracking & Environmental Results System (EPA 2019), which includes the National Hydrography Dataset;
- the National Wetland Inventory (USFWS 2018).

3.2 Jurisdictional Delineation

On October 23 and 30, 2019, Dudek biologists Tommy Molioo, Eilleen Salas, and Tracy Park conducted a formal delineation of potentially jurisdictional waters and wetlands within the study area, where access was available. The study area was surveyed on foot where potential jurisdictional features were observed and was surveyed for the following types of features:

- Waters of the United States, including wetlands, under the jurisdiction of the ACOE, pursuant to Section 404 of the federal Clean Water Act
- Waters of the state under the jurisdiction of the RWQCB, pursuant to Section 401 of the federal Clean Water Act and the Porter-Cologne Water Quality Control Act as wetlands or drainages
- Streambeds under the jurisdiction of the CDFW, pursuant to Section 1602 of the California Fish and Game Code
- It is assumed for the purpose of this report that CDFW-jurisdictional areas are also under the jurisdiction of the CCC, and have been delineated using the same methodology.

Non-wetland waters of the United States were delineated based on the presence of an OHWM as determined using the methodology in A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (ACOE 2008b). Wetland waters of the United States were delineated based on methodology described in the 1987 Corps of Engineers Wetland Delineation Manual (ACOE 1987) and the ACOE Regional Supplement (ACOE 2008a). Pursuant to the federal Clean Water Act, ACOE and RWQCB jurisdictional areas include those supporting all three wetlands criteria described in the ACOE manual: hydric soils, hydrology, and

hydrophytic vegetation. Areas regulated by the RWQCB are generally coincident with the ACOE, but can also include isolated features that have evidence of surface water inundation pursuant to the state Porter-Cologne Water Quality Control Act. Isolated features are delineated at the OHWM, at the outer limits of hydrophytic vegetation, or at the outer rim of depressional features if relevant.

Streambeds are typically delineated from top of bank to top of bank or the extent of associated riparian vegetation beyond the top of bank. For shallow drainages and washes that do not support riparian vegetation, the top-of-bank measurement may be the same as the OHWM measurement.

To aid in the delineation, data was collected at three data stations (Attachment B, Jurisdictional Delineation Forms). Hydrology, vegetation, and soils were assessed, and data were collected on an approved ACOE Arid West Wetland Determination Data form. The site was evaluated for wetland vegetation, wetland hydrology, and hydric soils. Photos of the jurisdictional features were taken in accordance with ACOE guidelines and are provided in Attachment C, Site Photos.

4 Environmental Setting

4.1 Land Uses

The project site is within the Talbert Regional Park and is crossed with a network of dirt trails that are open to the public. Multiple areas within the site contain various stages of habitat restoration as part of several non-related projects. The current and proposed land uses on-site would be consistent with the currently designated Public/Institutional land use mapped for the site (Costa Mesa 2016). The study area is relatively flat and occurs at the elevation range of 5 feet above mean sea level (amsl) to 16 feet amsl.

The project site contains residential development to the east and north, the Banning Ranch property to the south, and the Santa Ana River to the immediate west followed by additional residential development further to the west. The site is bisected by Victoria Street, which divides the project site into North Talbert and South Talbert.

4.2 Climate

The study area is located within the Peninsular Range, less than 1 mile from the Pacific Ocean. It is in a Mediterranean climate characterized by mild, dry summers and wet winters. Average temperatures near Newport Beach range from approximately 55° Fahrenheit (F) to 68°F, and the area generally receives an average rainfall of less than 11 inches per year (WRCC 2025).

4.3 Soils

According to U.S. Department of Agriculture there are five soil types found in the project area: Bolsa silt loam; Hueneme fine sandy loam; Hueneme fine sandy loam, drained; Myford sandy loam, 9 to 30% slopes, eroded; and Metz loamy sand, moderately fine substratum (Figure 3 Soils) (USDA 2025).

Bolsa silt loam is a poorly drained soil that derived from mixed alluvium and contains silt loam and silty clay loam. Hueneme fine sandy loam is comprised of fine sandy loam and stratified sand to silt loam. Myford sandy loam, 9 to 30% slopes, eroded, is similar to the previous description but often very shallow because of erosion. Metz loamy sand is deep, excessively drained soil formed in alluvial material from mixed, but dominantly sedimentary rocks (USDA 2025).

4.4 Vegetation

Thirty-five vegetation communities and land covers (including disturbed forms) were mapped in the study area based on general physiognomy and species composition, including 28 native or naturalized vegetation types and 7 non-native land covers. These natural vegetation communities and land covers were mapped based on general physiognomy, species composition, and/or ground cover and are discussed in detail further below (Figure 4, Vegetation Communities and Soils). Table 1 summarizes the extent of each vegetation community or land cover within the study area.

Table 1. Vegetation Communities and Land Covers within the Study Area

Vegetation Community or Land Cover	Association	Map Label	Acreages
Forest and Woodland Alliances			
Arroyo willow association	*Salix lasiolepis*	Sallas	5.81
Arroyo willow/mulefat	*Salix lasiolepis/Baccharis salicifolia*	Sallas/Bacsal	3.99
Black willow association	*Salix gooddingii*	Salgoo	2.51
Black willow/mulefat	*Salix gooddingii/Baccharis salicifolia*	Salgoo/Bacsal	10.39
Black Willow Thickets	*Salix gooddingii*	BWT	3.88
Blue elderberry-toyon association	*Sambucus nigra-Heteromeles arbutifolia*	Samnig-Hetarb	5.05
California sycamore-coast live oak association*	*Platanus racemosa-Quercus agrifolia*	Plarac-Queagr	3.99
Eucalyptus groves	*Eucalyptus* sp.	EG(SNS)	1.66
Mulefat thickets	Baccharis salicifolia	MFT	23.88
Mulefat-blue elderberry	*Baccharis salicifolia/Sambucus nigra* sp. *caerulea*	Bacsal-Sammex	44.21
Mulefat-Menzies' goldenbush-quailbush association	*Baccharis salicifolia/Isocoma menziesii/Atriplex lentiformis*	Bacsal-Isomen-Atrlen	7.20
White alder-California sycamore association*	*Alnus rhombifolia-Platanus racemosa*	Alnrho-Plarac	0.68
	Subtotal of Forest and Woodlands Alliances and Stands		*113.25*
Shrubland and Grassland Alliances			
Alkali heath/salt grass association	*Frankenia salina/Distichlis spicata*	Frasal/Disspi	2.83
American bulrush marsh*	*Schoenoplectus americanus*	ABM	0.82
Black mustard-ripgut brome association	*Brassica nigra-Bromus diandrus*	BM-RB	2.17

Table 1. Vegetation Communities and Land Covers within the Study Area

Vegetation Community or Land Cover	Association	Map Label	Acreages
California brittle bush-California sagebrush-black sage-coyote brush association	*Encelia californica-Artemisia californica-Salvia mellifera-Baccharis pilularis*	Enccal-Artcal-Salmel-Bacpil	13.69
Cattail marshes	*Typha*	CM	0.45
Coyote brush scrub	*Baccharis pilularis*	CYS	16.76
Coyote brush-California sagebrush association	*Baccharis pilularis-Artemisia californica*	Bacpil-Artcal	1.5
Ice plant mats	*Carpobrotus edulis*	IPM(SNS)	2.07
Menzies's golden bush scrub*	*Isocoma menziesii*	MGBS	17.58
Pickleweed mats*	*Salicornia*	PM	1.72
Poison hemlock or fennel patches	*Conium maculatum / Foeniculum vulgare*	PH-FP(SNS)	1.54
Quailbush scrub	*Atriplex lentiformis*	QS	2.29
Salt grass-Pacific swampfire association	*Distichlis spicata-Sarcocornia pacifica*	Disspi-Sarpac	16.46
Smartweed-cocklebur patches	*Persicaria / Xanthium strumarium*	S-CP	0.61
Tarplant fields*	*Centromadia parryi sp. australis*	TPF	0.50
Upland mustards	*Hirschfeldia incana*	UM(SNS)	34.55
		Subtotal of Shrubland Alliance and Stands	*115.54*
Non-Natural Land Covers and Unvegetated Communities			
Fivehook Bassia	*Bassia hyssopifolia*	Bassia	1.62
Myoporum/Black willow	*Myoporum* sp. / *Salix gooddingii*	CC	3.08
Disturbed Habitat	—	DH	28.37
Concrete channel	—	MP/Salgoo	2.06
Open water	—	OW	88.59
Parks and ornamental plantings	—	ORN	35.14
Urban/Developed	—	DEV	85.36
		Subtotal of Non-Natural Land Covers and Unvegetated Communities	*244.23*
		Total	**473.01**

Note:
* Ranked by CDFW as Sensitive Vegetation Communities (S1-3).

4.4.1 Native or Naturalized Vegetation Community

Alkali Heath/Salt Grass Association

The alkali heath/salt grass association (*Frankenia salina/Distichlis spicata* association) includes alkali heath and salt grass as the dominant or co-dominant in the herbaceous and subshrub layer. The community has an open to continuous cover less than 25 inches (60 centimeters) in height (Sawyer et al. 2009). This community occurs in

coastal salt marshes and alkali meadows. Species associated with the association include *Atriplex* sp., *Batis* sp., and *Suaeda* sp. Within the study area, this community occurs along the western boundary of South Talbert.

American Bulrush Marsh Alliance

The American bulrush marsh alliance (*Schoenoplectus americanus* herbaceous alliance) includes American bulrush as the dominant or co-dominant herb in the herbaceous layer. The community has an intermittent to continuous cover less than 13 feet (4 meters) in height (Sawyer et al. 2009). Species associated with the alliance include yerba mansa (*Anemopsis californica*), salt grass, common reed (*Phragmites australis*), hardstem bulrush (*Schoenoplectus acutus*), California bulrush (*Schoenoplectus californicus*), and cattail (*Typha* sp.) (Sawyer et al. 2009). Within the study area, this community occurs in one area within the western portion of South Talbert.

Arroyo Willow Alliance

The arroyo willow (*Salix lasiolepis*) thickets alliance includes arroyo willow as the dominant or co-dominant tree in the canopy. The alliance has an open to continuous tree canopy less than 65 feet (20 meters) in height with an open to intermittent shrub canopy and a variable ground layer (Sawyer et al. 2009). Species associated with the alliance include white alder (*Alnus rhombifolia*), coyote brush (*Baccharis pilularis*), mulefat (*Baccharis salicifolia*), California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), blue elderberry (*Sambucus nigra*), and other willows (Sawyer et al. 2009). Within the study area, this community occurs throughout the central and eastern portions of North and South Talbert.

Arroyo Willow/Mulefat Association

Arroyo willow/mulefat association is an association within the arroyo willow thickets alliance, which consists of arroyo willow and mulefat as co-dominant species in the canopy (Sawyer et al. 2009). Within the study area, this community occurs throughout the southeastern portions of this site and a smaller community on the northeastern area of North Talbert.

Black Mustard-Ripgut Brome

This nonnative vegetation community consists of black mustard (*Brassica nigra*) and ripgut brome (*Bromus diandrus*) as the co-dominant species in the herbaceous layer. Its cover is open to continuous with herbs less than 10 feet (3 meters) in height. Other species that can be found with this alliance include field mustard (*Brassica rapa*), artichoke thistle (*Cynara cardunculus*), carnation spurge (*Euphorbia terracina*), shortpod mustard (*Hirschfeldia incana*), woad (*Isatis tinctoria*), wild radish (*Raphanus sativus*), false brome (*Brachypodium distachyon*), ripgut brome and/or soft brome (*Bromus hordeaceus*) (Sawyer at al. 2009). Within the study area, this community occurs along the northern boundary of North Talbert.

Black Willow Alliance

The black willow thickets alliance (*Salix gooddingii* thickets alliance) includes black willow (*Salix gooddingii*) as the dominant or co-dominant tree in the canopy. The alliance has an open to continuous tree canopy less than 100 feet (30 meters) in height with an open to continuous shrub canopy, and variable ground layer (Sawyer et al. 2009). Species associated with the alliance include white alder, Fremont cottonwood, blue elderberry, red willow (*Salix laevigata*), arroyo willow, and shining willow (*Salix lucida* ssp. *lasiandra*) (Sawyer et al. 2009). Associated shrubs

include coyote brush and mulefat (Sawyer et al. 2009). Within the study area, this community occurs on the northwestern and southeastern portions of South Talbert.

Black Willow/Mulefat Association

Black willow/mulefat (*Salix gooddingii/Baccharis salicifolia*) association is an association found within the black willow alliance, which consists of black willow and mulefat as co-dominant species within the canopy (Sawyer et al. 2009). Within the study area, this community was found on the northwestern and southern portions of South Talbert.

Blue Elderberry-Toyon Association

The blue elderberry-toyon (*Sambucus nigra-Heteromeles arbutifolia*) association is an association within the blue elderberry alliance that has blue elderberry and toyon (*Heteromeles arbutifolia*) as the co-dominant species (Sawyer et al. 2009). The alliance has a continuous shrub canopy that is less than 26 feet (8 meters) in height. The herbaceous layer is variable and usually grassy. Other species that may occur in this community include: California sagebrush (*Artemisia californica*), coyote brush, mulefat, bigpod ceanothus (*Ceanothus megacarpus*), bush monkeyflower (*Diplacus aurantiacus*), lemonade berry (*Rhus integrifolia*), and arroyo willow. Emergent trees may be present at low cover, including Southern California black walnut (*Juglans californica*), Fremont cottonwood, and California coast live oak (*Quercus agrifolia*). Within the study area, this community occurs along the northeastern boundary of North Talbert.

California Brittle Bush-California Sagebrush-Black Sage-Coyote Brush Association

California brittle bush-California sagebrush-black sage-coyote (*Encelia californica-Artemisia californica-Salvia mellifera-Baccharis salicifolia*) brush is an association within the California brittle bush alliance (Sawyer et al. 2009). Within the study area, this community occurs along the western boundary of North Talbert.

California Sycamore-Coast Live Oak Association

The California sycamore-coast live oak is an association within the California sycamore alliance. It is characterized as having California sycamore and coast live oak as co-dominant species in the tree canopy (Sawyer et al. 2009). Other associated species are Southern California black walnut, Fremont cottonwood, Valley oak (*Quercus lobata*), narrow-leaved willow, black willow, red willow, arroyo willow, Peruvian peppertree (*Schinus molle*) and California bay (*Umbellularia californica*). Within the study area, this community occurs within the northeastern corner of North Talbert.

Cattail Marshes Alliance

The cattail marshes alliance (*Typha [angustifolia, domingensis, latifolia]* herbaceous alliance) includes cattails as dominant or co-dominant in the herbaceous layer that is less than 5 feet (1.5 meters). The alliance has an intermittent to continuous cover and consists of a low cover of emergent trees (Sawyer et al. 2009). Cattail marshes occurs on semi-permanently flooded freshwater or brackish marshes. Some species associated with the alliance includes *Schoenoplectus* sp., *Juncus* sp., *Distichlis* sp., and *Salix* sp. Within the study area, this community occurs in one area on the northern boundary of North Talbert.

Coyote Brush Scrub Alliance

The coyote brush bush scrub alliance (*Baccharis pilularis* scrub alliance) includes coyote brush as dominant or co-dominant in the canopy. The alliance has a variable canopy less than 3 feet (1 meter) in height with variable herbaceous layer (Sawyer et al. 2009). Some species associated with the alliance include California sagebrush, California buckwheat (*Eriogonum fasciculatum*), common deerweed (*Acmispon glaber* var. *glaber*), white sage (*Salvia apiana*), and purple sage (*Saliva leucophylla*) (Sawyer et al. 2009). Within the study area, this community occurs throughout North Talbert.

Coyote Brush-California Sagebrush Association

Coyote brush-California sagebrush association is an association within the coyote brush alliance (Sawyer et al. 2009). Within the study area, this community occurs within the northwestern corner of North Talbert.

Eucalyptus Groves Alliance

The eucalyptus grove alliance is a semi-natural community which includes *Eucalyptus* spp. as the dominant species in the tree canopy. It has a tree canopy of less than 200 feet (60 meters) and is open to continuous (Sawyer et al. 2009). The shrub layer and herbaceous layer is sparse to intermittent. Within the study area, this community occurs along the southern boundary of North Talbert.

Ice Plant Mats

Ice plant mats alliance (*Carpobrotus* sp. alliance) is a semi-natural alliance that is characterized by areas dominated or co-dominated by sea fig (*Carpobrotus chilensis*), hottentot fig (*Carpobrotus edulis*), common iceplant (*Mesembryanthemum crystallinum*) or other ice plant taxa. This community is intermittent to continuous cover in the herb layer with less 20 inches (50 centimeters) in height (Sawyer et al. 2009). Emergent trees and shrubs may be present at low cover. Within the study area, this community occurs within the southern portion of North Talbert, and the northern portion of South Talbert.

Menzies's Golden Bush Scrub Alliance

The Menzies's golden bush scrub alliance (*Isocoma menziesii* scrub alliance) includes Menzies's golden bush as dominant or co-dominant in the canopy. The alliance has an open to intermittent shrub canopy less than 3 feet (1 meter) in height with an open to continuous herbaceous layer (Sawyer et al. 2009). Some species associated with the alliance include California saltbush (*Atriplex californica*), desertbroom (*Baccharis sarothroides*), San Joaquin snakeweed (*Gutierrezia californica*), and Virginia glasswort (*Salicornia depressa*) (Sawyer et al. 2009). Within the study area, this community occurs throughout South Talbert.

Mulefat Thickets Alliance

The mulefat (*Baccharis salicifolia* thickets alliance thickets alliance) includes mulefat as the dominant or co-dominant shrub. The community has a continuous shrub canopy with two tiers at less than 7 feet (2 meters) and less than 15 feet (5 meters) in height, a tree layer that may be present at low cover, and a sparse herbaceous layer (Sawyer et al. 2009). Species associated with the alliance include arroyo willow, narrow-leaved willow, California sagebrush, coyote brush, tree tobacco (*Nicotiana glauca*), and laurel sumac (*Malosma laurina*). Other tree species

that may be present include California sycamore, Fremont cottonwood, oaks (*Quercus* sp.), and willows (*Salix* sp.) (Sawyer et al. 2009). Within the study area, this community occurs throughout South Talbert.

Mulefat-Blue Elderberry Association

The mulefat-blue elderberry (*Baccharis salicifolia-Sambucus nigra*) association has mulefat and blue elderberry as the co-dominant species in the shrub canopy (Sawyer et al. 2009). Within the study area, this community was found throughout North Talbert.

Mulefat-Menzies' Goldenbush-Quailbush Association

The mulefat-menzies' goldenbush-quailbush association has mulefat, menzies' goldenbush, and quailbush (*Atriplex lentiformis*) as the co-dominant species in the shrub canopy (Sawyer et al. 2009). Within the study area, this community was found centralized in North Talbert and surrounded by other communities like mulefat thickets and quailbush scrub.

Pickleweed Mats Alliance

The pickleweed mats alliance (*Salicornia pacifica* herbaceous alliance) includes pickleweed as the dominant or co-dominant herb in the subshrub or herbaceous layer. The community has an intermittent to continuous cover less than 5 feet (1.5 meters) in height (Sawyer et al. 2009). Species associated with the alliance include salt bulrush (*Bolboschoenus maritimus*), Veatch's dodder (*Cuscuta nevadensis*), salt grass, alkali heath, gum plant (*Grindelia stricta*), marsh jaumea (*Jaumea carnosa*), smartweed (*Persicaria lapathifolia*), and estuary seablite (*Suaeda esteroa*) (Sawyer et al. 2009). Within the study area this community is found in the southern portion of South Talbert.

Poison Hemlock or Fennel Patches Alliance

Poison hemlock or fennel patches (*Conium maculatum* or *Foeniculum vulgare* semi-natural alliance) are characterized by areas dominated or co-dominated by poison hemlock or fennel, or another non-native invasive plant of the *Apiaceae* family in the herbaceous layer. The semi-natural community has an open to continuous cover less than 7 feet (2 meters) in height. Emergent trees and shrubs may be present at low covers, including oak (*Quercus* sp.) or coyote bush (Sawyer et al. 2009). Within the study area, this community occurs in one area on the southwestern corner of South Talbert.

Quailbush Scrub Alliance

The quailbush scrub alliance (*Atriplex lentiformis* scrub alliance) includes quailbush as dominant shrub in the canopy. The alliance has an open to intermittent shrub canopy less than 16 feet (5 meters) in height with variable herbaceous layer (Sawyer et al. 2009). Some species associated with the alliance include California sagebrush, fourwing saltbush (*Atriplex canescens*), coyote brush, California brittle bush, laurel sumac, arrow weed (*Pluchea sericea*), alkali sacaton (*Sporobolus airoides*), and woolly seablite (*Suaeda taxifolia*) (Sawyer et al. 2009). Within the study area, this community occurs along the southern boundary of the North Talbert and within the central portion of South Talbert.

Salt Grass-Pacific Swampfire Association

Salt grass-Pacific swampfire association (*Distichlis spicata-Sarcocornia pacifica*), is an association within the salt grass alliance, which consists of salt grass and Pacific swampfire as co-dominant species in the subshrub and herbaceous layer (Sawyer et al. 2009). Within the study area, salt grass-Pacific swampfire communities were found in South Talbert on a relatively large portion of the project site's southwestern area.

Smartweed-Cocklebur Patches Alliance

The smartweed-cocklebur patches (*Polygonum lapathifolium* and/or *Xanthium strumarium*) alliance includes smartweed and cocklebur as dominant or co-dominant in the herbaceaous layer with devil's beggartick (*Bidens frondosa*), fiveangled dodder (*Cuscuta campestris*), *Echinochloa* sp., pale spike rush (*Eleocharis macrostachya*), and *Polygonum* sp. (Sawyer et al. 2009). Within the study area, this community occurs in one area within the southeastern corner of South Talbert.

Tar Plant Field Alliance

The tar plant fields alliance (*Centromadia* sp.) includes *Centromadia* sp. as the dominant or co-dominant in the herbaceous layer. Other common species associated with this alliance includes: *Atriplex* sp., *Bromus* sp., redstem stork's bill (*Erodium cicutarium*), alkali heath, shortpod mustard, mouse barley (*Hordeum murinum*), *Lasthenia* sp., and *Trifolium* sp. (Sawyer et al. 2009). Emergent shrubs may be present at low cover, including bush seepweed (*Suaeda nigra*). Within the study area, this community occurs in one area within the southeastern portion of South Talbert.

Upland Mustards

This community is a naturalized vegetation type that has an herbaceous layer dominated by black mustard, shortpod mustard, or other mustards with an open to continuous canopy less than 10 feet (3 meters) in height (Sawyer et al. 2009). Upland mustards typically occur in recently disturbed areas such as fallow fields, grasslands, and roadsides (Sawyer et al. 2009). Within the study area, this community was found throughout the central portion of North Talbert.

White Alder-California Sycamore Association

The white alder-California sycamore (Alnus rhombifolia-Platanus racemosa) association is an association within the white alder alliance with white alder and California sycamore as the co-dominant species (Sawyer et al. 2009). Other species that may be associated with this community are: big-leaf maple (Acer macrophyllum), Port orford cedar (Chamaecyparis lawsoniana), Oregon Ash (Fraxinus latifolia), tanoak (Notholithocarpus densiflorus), California sycamore, Fremont cottonwood, black cottonwood (Populus trichocarpa), Douglas-fir (Pseudotsuga menziesii), Valley oak, and willows (Salix sp.). Within the study area, this community was found in one area in the southern portion of North Talbert.

4.4.2 Non-Natural Land Covers and Unvegetated Communities

Fivehook Bassia

This non-native community is naturalized in California with five hook bassia (*Bassia hyssopifolia*) as the dominant or co-dominant species (Sawyer et al. 2009). Fivehook bassia tends to occur in disturbed habitat in either wetland or non wetland communities. Within the study area, this community is centralized in South Talbert, directly adjacent to the disturbed habitat and mulefat thicket communities.

Concrete Channel

Concrete channel refers to a non-native land cover that consists of open sections of engineered concrete-lined channel that have been constructed and do not have vegetated present. These channels have a bed and bank that is clearly visible. Within the study area, this land cover occurs along the northern boundary of North Talbert.

Disturbed Habitat

Disturbed habitat typically occurs in areas where soils have been recently or repeatedly disturbed by grading or compaction, resulting in the growth of very few native perennials. It is usually dominated by bare ground or non-native dicotyledonous species including redstem stork's bill, black mustard, thistles (e.g., artichoke thistle, Italian plumeless thistle [*Carduus pycnocephalus*], and Maltese star-thistle [*Centaurea melitensis*]), dove weed (*Croton setigerus*), and others. Within the study area, disturbed land includes the dirt paths that are present throughout North and South Talbert.

Myoporum/Black Willow Association

Myoporum/black willow (*Myoporum/Salix gooddingii*) association is an association found within the black willow alliance, which consists of Myoporum and black willow as co-dominant species within the canopy (Sawyer et al. 2009). Within the study area, this community occurs within the central portion of South Talbert.

Open Water

This mapping unit is not recognized by the CNPS's Manual of California Vegetation (Sawyer et al. 2009); however, is included within Oberbauer et al. (2008). According to Oberbauer et al. (2008), open water—freshwater is comprised of year-round bodies of fresh water (extremely low salinity) in the form of reservoirs/lakes, streams, ponds, or rivers. Open water areas are aquatic areas that generally lack emergent vegetation, but typically support hydrophytic vegetation around their margins (e.g., mulefat scrub, southern willow scrub, freshwater marsh, or herbaceous wetland). Within the study area, this community occurs in the northeastern corner of North Talbert area, in the northwestern portion of South Talbert within Victoria Lake, and along the western boundary of the study area within the Santa Ana River.

Parks and Ornamental Plantings

This mapping unit is not recognized by the CNPS's Manual of California Vegetation (Sawyer et al. 2009); however, is included within disturbed land (11300) in Oberbauer et al. (2008). Ornamental plantings refer to areas where non-native ornamentals and landscaping have been installed. Ornamental plantings occur in the northeastern portion of the study area. These plantings are generally associated with landscaping for the park. Within the study

area, this community occurs within the central portion of North Talbert, along the northern boundary of South Talbert, and along the eastern portion of the study area.

4.5 Topography

The topography within the study area is relatively flat and varies from approximately 5 feet amsl in the southern portion to approximately 16 feet amsl in the northern portion. The eastern portion of the study area is bordered by a mesa that is approximately 50-80 feet amsl, and the western portion of the study area is bordered by the concrete-lined Santa Ana River and Banning Channel. The study area was historically part of the Santa Ana River floodplain prior to channelization of the Santa Ana River, and is currently indirectly connected to the River through groundwater sources.

4.6 Hydrology

The study area occurs within the Lower Santa Ana River watershed, and specifically within the Santa Ana River hydrologic unit (Figure 5). The study area historically functioned as part of the flood plain of the Santa Ana River, as the study area served as an upper terrace for overflows from the River during flood events. Once the Santa Ana River was channelized in the late 1920s, the study area no longer received a regular inundation of flows from the River except in extreme flooding events. A levee was later built along the Santa Ana River, which further cut off direct hydrologic connectivity to the River from the study area. However, there is still an indirect hydrologic connection to the Santa Ana River through underground connectivity and groundwater infiltration. In addition, due to the infiltration of seawater from the Pacific Ocean upstream into the Santa Ana River, which have caused brackish conditions to occur within the lower reach of the River, the resulting groundwater infiltration contains a high concentration of salt, as observed in the salt deposits and salt marsh vegetation on site.

Hydrology is also provided to the study area through stormwater runoff from upland areas to the east (via concrete channels or sheet flow off the mesa) and overflow from a restoration area to the north within Fairview Regional Park. This restoration area removed the historic Placentia Drain (an intermittent stream that historically connected to the Fairview Channel), and created a closed-loop system of ponds that receives water pumped in from the Banning Channel to the west, with associated planted riparian/upland native habitat. The southernmost pond is supposed to function as an overflow pond, however, this closed-loop system is not functioning properly and water is flowing out of the pond and flowing downstream (south) following the same path as the historic Placentia Drain. This overflow of water does not connect downstream to any Relatively Permanent Water (RPW) or Traditional Navigable Water (TNW).

5 Results of Survey

5.1 Database Review

A review of the National Wetland Inventory dataset revealed there are several wetland habitat types mapped within the study area including: freshwater pond (PUBHx and PUSA), freshwater emergent wetland (PEM1A, PEM1Ah, PEM1Fx, and PEM1Cx), freshwater forested/shrub wetland (PSSAx, PSSCx, PFOCx, PFO/SSA, PFOA, and PFOAh),

riverine (R1USQx, R4SBAr, and R1UBVr), estuarine and marine deepwater (E1UBLx), and estuarine and marine wetland (E2USNx and E2EM1Nh). Additional wetland types occur within offsite areas to the south, within the Banning Ranch property, and to the east, within Fairview Regional Park. The most significant feature in the study area is the Santa Ana River that occurs to the immediate west and due to previous channelization has no direct connectivity to the study area.

5.2 Jurisdictional Delineation

The study area contains thirteen features that demonstrate hydrologic connectivity and facilitate water flow that are potentially subject to regulatory agency jurisdiction under Sections 404 and 401 of the CWA, and Section 1600 et seq. of CFG Code. These features occur on both North Talbert and South Talbert, and within the 500-foot buffer, and have been modified over the decades through onsite and adjacent development. These features are described in more detail below and summarized in Table 3. The mapped limits of potentially jurisdictional waters are provided on Figures 6 and 7 (Attachment A), and representative photos are provided in Attachment C. The results of all data stations are listed in Table 4, Data Station Point Summary, and included in Attachment B.

Table 3. Summary of ACOE/RWQCB Aquatic Resources in the Study Area

Feature Name	Cowardin	Dominant Vegetation (wetlands) OHWM Indicators (non-wetland water)	Location (Latitude/ Longitude)	Acreage/ Linear Feet
ACOE/RWQCB Jurisdictional Aquatic Resources				
Wetlands				
Placentia Drain (Intermittent Stream)	PEM1A	Mulefat-blue elderberry	33.660330678075, -117.94382039280	0.15/250
Wetland 1 (Wetland)	PEM1Cx PFOCx	American bulrush marsh Black willow thickets	33.648011651062, -117.95012974659	3.26/281
Wetland 2 (Wetland)	PEM1Ah	Mulefat thickets Salt grass-Pacific swampfire	33.644710645791, -117.95017748930	15.36/1,066
			USACE Wetlands Subtotal	*18.77/1,597*
Non-Wetland Waters				
Santa Ana River (Perennial Stream)	R1USQx E1UBL E2USNx	Open Water Break in bank slope	33.656471504387, -117.94958461991	69.17/9,830
Banning Channel (Intermittent Stream)	R2UBHr	Open Water Break in bank slope	33.658214030204, -117.94825053704	15.19/8,634
Fairview Channel (Intermittent Stream)	R2UBFr	Open Water Concrete Channel Break in bank slope	33.667628618322, -117.94515478237	0.78/343

Table 3. Summary of ACOE/RWQCB Aquatic Resources in the Study Area

Feature Name	Cowardin	Dominant Vegetation (wetlands) OHWM Indicators (non-wetland water)	Location (Latitude/ Longitude)	Acreage/ Linear Feet
Pond E (Perennial Pond)	none	Cattail Marsh Open Water Change in vegetation cover Break in bank slope	33.665659746548, -117.94200684660	0.63/290
FP Channel (Perennial Pond)	none	Open Water Break in bank slope	33.665659746548, -117.94200684660	0.26/455
Overflow Pond (Perennial Pond)	PEM1A	Open Water Change in vegetation species Change in vegetation cover Break in bank slope	33.664888418003, -117.94282619843	0.19/234
Placentia Drain (Intermittent Stream)	PEM1A	Open Water Blue elderberry-toyon Mulefat-blue elderberry Upland mustards Change in vegetation species Change in vegetation cover Break in bank slope	33.659809246249, -117.94387549326	0.61/1,563
Victoria Pond (Perennial Pond)	PUBHx	Open Water Change in average sediment texture Change in vegetation species Change in vegetation cover Break in bank slope	33.649062979378, -117.95017874462	3.35 /668
Unnamed Drainage (Ephemeral Drainage)	PSSAx	Myoporum/Black willow Arroyo willow Disturbed habitat Mulefat thickets Urban/developed Change in vegetation cover Break in bank slope	33.647200760658, -117.94533539148	0.15/1,413
Concrete-Lined Channel (Ephemeral Drainage)	R4SBAr	Urban/developed Change in vegetation cover Break in bank slope	32.68488215190, -116.90497125900	0.30/4,374
			Non-Wetland Waters Total	*90.63/27,804*
			USACE Grand Total	***109.4/29,401**

* Acreage may not total due to rounding.

5.2.1 Waters of the U.S.

Potentially jurisdictional Waters of the U.S. that may be subject to ACOE jurisdiction includes features on the study area that exhibit connectivity to a TNW and display an OHWM, such as three wetland features, including the historic Placentia Drain, and ten non-wetland features, including the channelized Santa Ana River and Banning Channel. Each feature is described in further detail below and depicted on Figures 6-1 through 6-13.

5.2.1.1 Wetland Features

Placentia Drain

An approximately 0.15 acre portion of the intermittent stream mapped within the historic limits of the Placentia Drain was determined to be a wetland feature within the eastern portion of North Talbert within the study area. The Cowardin classification for the Placentia Drain is PEM1A (Palustrine Emergent Persistent Temporary Flooded). The portion of the historic Placentia Drain that exhibits wetland indicators occurs near the downstream end of the mapped channel (Figure 6-7). The Placentia Drain receives flows from an overflowing pond to the north (upstream) that is part of the wetland restoration project for Fairview Park. Although this offsite project is supposed to be a closed-loop system, hydrologic input is received from water pumped from the Banning Channel to the west. Therefore, there is a hydrologic connection to a RPW upstream. Additionally, the Placentia Drain displays an observable OHWM on the adjacent slopes due to the observed change in topography and vegetation cover.

Paired data pits were dug within the channel (DP5) and in the adjacent upland area (DP6) to determine if all three wetland parameters were present, and map the extent of the observed wetland. The data stations summary for each Data Point (DP) taken during the delineation is included in Table 4. DP5 contains a prevalence of hydrophytic vegetation due to the dominance of tall cyperus (*Cyperus eragrostis*; FACW) and sub-dominance of salt marsh fleabane (*Pluchea odorata*; FACW); however, adjacent species consist of upland species such as lemonade berry (UPL) and blue elderberry (FACU) are also present within the tree stratum for DP5 (Photos 8 and 9). The soil pit dug for DP5 resulted in an organic layer in the first 3 inches, followed by a matrix color of 2.5Y 3/1 for the remaining 18 inches. The bottom 15 inches of the soil pit exhibited redox features with a color of 2.5Y 5/6 at 20 percent concentrations observed in the pore lining, with a soil texture of silty loam. The hydric soil indicator observed in DP5 based on the matrix and redox colors is Redox Dark Surface (F6), indicating the soil within DP5 is hydric. The observed hydrology indicators for DP5 include a high water table at 1 inch from the surface, and saturation in the soil at 1 inch from the surface. Therefore, DP5 contains all three parameters to be considered a federally protected wetland Water of the U.S. subject to ACOE jurisdiction.

The paired data point DP6 was dug adjacent to DP5 but within an upland area outside the channel. Vegetation within DP6 is dominated by upland species such as lemonade berry (UPL), blue elderberry (FACU), nightshade (*Solanum* sp.; FACU), and Canadian horseweed (*Erigeron canadensis*; FACU). The soil pit dug at DP6 contains an uniform sample with a matrix color of 10YR 3/2 throughout the entire 18 inch sample, with a silty loam texture. No redoximorphic features or hydric soil indicators were observed within this soil sample. Additionally, no wetland hydrology indicators were observed, although a water table was observed at the bottom of the 18-inch soil pit. Therefore, DP6 does not contain any wetland parameters and this data station occurs within an upland area that designates the boundary for the wetland area observed in DP5.

Wetland 1

Wetland 1 is located within an approximately 3.26 acre area in South Talbert, immediately south of the Victoria Pond. The Cowardin classification for Wetland 1 is PEM1Cx (Palustrine Emergent Persistent Seasonally Flooded Excavated) and PFOCx (Palustrine Forested Seasonally Flooded Excavated). This wetland receives inundation from the adjacent Victoria Pond, which is supplied by groundwater infiltration, and from an ephemeral unnamed drainage that originates in offsite areas. Additionally, the wetland is located adjacent to a TNW, the Santa Ana River, and is separated by a man-made levee where historically, this wetland would occur within the floodplain of the Santa Ana River. Therefore, Wetland 1 has a hydrologic connection to a TNW through groundwater connection as an adjacent wetland.

Three data stations were dug within Wetland 1 to determine the limits of this wetland feature, DP7, DP8, and DP9. Data station DP7 was dug on the eastern boundary of Wetland 1 where vegetation is dominated by American bulrush marsh and black willow thickets habitat consisting of black willow in the tree layer with an understory of saltmarsh fleabane (FAC) and dotted smartweed (*Persicaria punctata*; OBL). DP7 contains both a dominance and prevalence of hydrophytic vegetation. The soil within DP7 consists of an organic layer in the top 3 inches, followed by a matrix color of 2.5Y 3/2 in 80% of the remaining 12 inches of the sample, with observed redoximorphic features with a color of 7.5YR 4/6 in 20% of the sample displayed as concentrations in the matrix. The texture of the soil is sandy loam and a Depleted Matrix (F3) was determined to occur within the sample. A primary indicator of wetland hydrology was observed in DP7 in the form of Water-Stained Leaves (B9). Riverine water marks were also observed as a secondary indicator of hydrology. Therefore, DP7 contains all three wetland parameters to be considered a wetland.

Data station DP8 occurs in the southern portion of Wetland 1, in an area dominated by black willow (FACW), mulefat (FAC), and fivehook bassia (*Bassia hyssopifolia*; FACU). Due to the total cover of the vegetation, DP8 contains both a dominance and prevalence of hydrophytic vegetation. The soils within DP8 contain an organic layer in the top 2 inches, followed by a matrix color of 2.5Y 4/2 in 95% of the sample from 2-12 inches. Redoximorphic features were observed as concentrations in the matrix with a color of 7.5YR 4/6. The soil had a sandy clay loam texture and observed salt deposits. Based on the observed soil and redox concentrations, DP8 exhibits a Depleted Matrix (F3) hydric soil indicator. Hydrology indicators of a salt crust (B11) were observed within the sample as well. Therefore, DP8 contains all three wetland parameters to be considered a wetland.

Data station DP9 was taken to the southwest of Wetland 1, in an upland area that delineates the boundary of the wetland feature. The vegetation within DP9 consists of a dominance of pickleweed (UPL) and Myoporum (UPL), and lacks a dominance and prevalence of hydrophytic vegetation. The soils within DP9 consists of a matrix color of 2.5Y 4/3 throughout the entire 10 inch sample, with a silty loam texture and no evidence of redoximorphic features. No hydric soil indicators were observed within the soil sample indicating a lack of hydric soils. A salt crust (B11) was observed on the surface of the soil, indicating a wetland hydrology indicator. However, DP9 lacks two of the three wetland parameters to be considered a wetland.

Wetland 2

Wetland 2 is a large (approximately 15.36 acre) wetland feature located at the southwestern boundary of the project site within South Talbert. The Cowardin classification for Wetland 2 is PEM1Ah (Palustrine Emergent Persistent Temporary Flooded Impounded). This wetland feature is not connected to a drainage feature and appears to receive

hydrologic input from groundwater infiltration due to the wetland's adjacency to the Santa Ana River. Additionally, due to the saltwater infiltration upstream of the Santa Ana River from the Pacific Ocean, the groundwater has a high salinity that is observable in the salt crusts in the surface of the soil within Wetland 2. Therefore, the hydrologic connection to the Santa Ana River, a TNW, occurs through the groundwater.

Two data stations were dug within Wetland 2 to determine if all three wetland parameters exist. DP13 was taken in the southeastern portion of Wetland 2 in an area dominated by Pacific swampfire (OBL), salt grass (FAC), and alkali heath (FACW). The total cover of this hydrophytic species demonstrates a dominance and prevalence of hydrophytic vegetation at DP13. The soil sample dug within DP13 includes an organic layer in the top 3 inches, followed by 9 additional inches of a matrix color of 10YR 3/1 in 95% of the sample, and redoximorphic concentrations in the matrix with a soil color of 10YR 3/6 in 5% of the sample. A Depleted Matrix (F3) was determined to occur, indicating presence of hydric soils. Additionally, the Salt Crust (B11) hydrology indicator observed within DP13 indicates the presence of adequate hydrology to support a wetland. Therefore, DP13 is considered a wetland point.

DP14 occurs in the northern portion of Wetland 2 in an area dominated by Pacific swampfire (OBL), alkali sacaton (*Sporobolus airoides*; FAC), and saltgrass (FAC) which passes the prevalence index test for total cover by hydrophytic species. Soils within DP14 contain an uniform soil sample of a soil matrix with color 10YR 4/2 in 99% of the sample, and a small inclusion (1%) of redox concentrations in the matrix and a sandy clay loam texture. This sample displays a Depleted Matrix (F3) hydric soil indicator, indicating hydric soils are present. Additionally, a salt crust (B11) hydrology indicator was present on the surface of the soil at DP14 and therefore this area meets the three parameter wetland test for hydrophytic vegetation, hydric soils, and hydrology.

Table 4. Data Station Point Summary

Data Station	Wetland Determination Field Indicators			Vegetation Community	Determination	Waters Type
	Vegetation	Hydric Soils	Hydrology			
DP1	None	✓	✓	Mulefat-blue elderberry	Jurisdictional	Non-Wetland
DP2	None	None	None	Mulefat-blue elderberry	Jurisdictional	Non-Wetland
DP3	None	None	None	Mulefat-blue elderberry	Jurisdictional	Non-Wetland
DP4	None	None	None	Mulefat-blue elderberry	Jurisdictional	Non-Wetland
DP5	✓	✓	✓	Mulefat-blue elderberry	Jurisdictional	Wetland
DP6	None	None	None	Blue elderberry-toyon	Jurisdictional	Non-Wetland
DP7	✓	✓	✓	Myoporum/black willow	Jurisdictional	Wetland
DP8	✓	✓	✓	Black willow thickets	Jurisdictional	Wetland

Table 4. Data Station Point Summary

Data Station	Wetland Determination Field Indicators			Vegetation Community	Determination	Waters Type
	Vegetation	Hydric Soils	Hydrology			
DP9	None	None	✓	Black willow thickets	Jurisdictional	Non-Wetland
DP10	✓	✓	None	Salt grass-Pacific swampfire	Jurisdictional	Non-Wetland
DP11	None	None	None	Arroyo willow	Jurisdictional	Non-Wetland
DP12	✓	None	None	Black willow/mulefat	Jurisdictional	Non-Wetland
DP13	✓	✓	✓	Pickleweed mats	Jurisdictional	Wetland
DP14	✓	✓	✓	Salt grass-Pacific swampfire	Jurisdictional	Wetland

5.2.1.2 Non-Wetland Features

Santa Ana River

During the jurisdictional delineation survey the channelized Santa Ana River located to the west of the project site, was entirely inundated with water and no vegetation was observed within the channel or surrounding banks. The Santa Ana River is a RPW classified as a perennial stream that is regularly inundated from both freshwater flows from upstream areas and saltwater infiltration from the Pacific Ocean downstream. The Cowardin classifications for the Santa Ana River are R1USQx (Riverine Tidal Unconsolidated Shore Regularly Flooded Excavated), E1UBL (Estuarine Subtidal Unconsolidated Bottom Subtidal), and E2USNx (Estuarine Intertidal Unconsolidated Shore Regularly Flooded Excavated). No portions of the Santa Ana River occur within the project boundary and approximately 69.17 acres occurs within the survey buffer. Due to the lack of access to the Santa Ana River, a data station was not placed within the river. However, the determination of non-wetland waters was made due to the lack of hydrophytic riparian vegetation and regular presence of surface water. Due to the river's direct connectivity to the Pacific Ocean, a TNW, this feature is considered a non-wetland water of the U.S.

Banning Channel

The concrete-lined Banning Channel is an intermittent stream that occurs immediately adjacent to the Santa Ana River and the western boundary of the project site. It conveys flows from upstream areas in the City of Costa Mesa, downstream to the Santa Ana River, a RPW. The Cowardin classification for the Banning Channel is R2UBHr (Riverine Lower Perennial Unconsolidated Bottom Permanently Flooded Artificial). This channel is devoid of vegetation and consists of concrete-lined channel and banks. Due to the lack of vegetation, the Banning Channel does not pass the three-parameter test to be considered a wetland. Therefore, approximately 15.19 acre of the Banning Channel within the study area is considered a non-wetland water of the U.S.

Fairview Channel

The Fairview Channel is a concrete-lined flood control channel that occurs in the northernmost portion of North Talbert. This channel originates at a box culvert near Placentia Avenue and connects directly to the Banning Channel downstream, which directly connects to the Santa Ana River a RPW. The Cowardin classification for the Fairview Channel is R2UBFr (Riverine Lower Perennial Unconsolidated Bottom Semipermanently Flooded Artificial). The Fairview Channel lacks vegetation and does not pass the three-parameter test for a wetland. Therefore, approximately 0.78 acre of the Fairview Channel within the study area is considered a non-wetland water of the U.S.

Pond E

Pond E is a perennial pond that was installed as a portion of the Fairview Park wetland restoration project to the north of the project site but within the survey buffer. This pond is part of closed-loop system that receives hydrologic input pumped in from the Banning Channel, and eventually drains into the Overflow Pond that is itself overflowing into the historic Placentia Drain. There is no Cowardin classification for Pond E because this pond is entirely artificial and was not present when the area was mapped by the USFWS. The vegetation mapped within Pond E consists of cattail marsh and open water, where the cattails (*Typha angustifolia*; OBL) are planted within concrete planter boxes below the water surface. Because the ponds are man-made, concrete-lined features that are regularly inundated, any sediment that would have accumulated in the pond would not be subjected to the chemical process to create hydric soils. Therefore, a total of approximately 0.63 acre of Pond E within the study area is considered a non-wetland water of the U.S.

FP Channel

The Fairview Park (FP) Channel is located within the Fairview Park wetland restoration project to the north of the project site, and connects Pond E with the Overflow Pond in the northern portion of North Talbert. This channel was installed as part of the restoration project and is part of the closed-loop system, similar to Pond E. Due to its hydrologic input from the Banning Channel, the FP Channel is connected to an intermittent stream that connects to a RPW. There is no Cowardin classification for this channel because it is entirely artificial and was not present when the area was mapped. This channel is concrete-lined and completely inundated, and although riparian vegetation occurs immediately adjacent to the channel, the mapped soils are sandy loam and would not be able to support hydric conditions. Therefore, a total of approximately 0.26 acre of the FP Channel is considered a non-wetland water of the U.S.

Overflow Pond

The Overflow Pond is a 0.90-acre perennial pond located in the northern portion of North Talbert, and connects to the FP Channel through a culvert beneath a dirt access road. The pond is supposed to function as an overflow collection pond for Pond E but is not currently functioning properly and is allowing impounded water to flow downstream into the Placentia Drain. The Cowardin classification for the artificial Overflow Pond is PEM1A (Palustrine Emergent Persistent Temporarily Flooded) because this feature is located within the limits of the historic Placentia Drain. The pond is surrounded by upland vegetation on the surrounding banks, such as blackberry (*Rubus ursinus*; UPL), and California buckwheat (*Eriogonum fasciculatum*; UPL), and portions of the surface water are covered in with a mat of duckweed

(*Lemna minor*; OBL). Due to the perennial inundation of water within this pond, the soils would not function as hydric soils. Therefore, the Overflow Pond is considered a non-wetland water of the U.S.

Placentia Drain

The non-wetland portions of the Placentia Drain include approximately 0.61 acre of the channel from the Overflow Pond, south towards its current terminus approximately 1,560 feet downstream. The hydrology for the Placentia Drain is provided as overflow from the Overflow Pond to the immediate north, as described in the wetland discussion for this channel further above. The Cowardin classification for the Placentia Drain is PEM1A (Palustrine Emergent Persistent Temporarily Flooded). Vegetation within the channel generally consists of mulefat-blue elderberry scrub, with scattered non-native species. Four data stations were placed within the Placentia Drain to determine the presence/absence of wetland indicators. Paired Data Points at DP1 and DP2 were placed within a non-inundated area immediately adjacent to the Placentia Drain and in an upland area, respectively.

Vegetation within DP1 consists of a dominance of blackberry (UPL), duckweed (OBL), and Canada horseweed (FACU). Due to the total cover of upland species, the vegetation within DP1 does not pass the dominance test or prevalence index to be considered a dominance of hydrophytic vegetation. The soils within DP1 consist of a soil color in the top 6 inches of 2.5Y 2.5/1 in 98% of the matrix and redoximorphic concentrations in 2% of the matrix with a texture of silty clay loam. An organic layer occurs from 6 to 7 inches, followed by a color of 2.5Y 3/1 in 90% of the matrix from 7 to 9 inches, with redoximorphic features with a Gley1 2.5/N in 10% of the matrix displaying a reduced matrix and silty loam texture. The bottom 9 to 12 inches consist of a color of 2.5Y 3/1 in 95% of the matrix with a redox of Gley1 2.5N as a reduced matrix in 5% of the matrix with a silty loam texture. These soils and redox colors display a Loamy Gleyed Matrix (F2) which is considered a hydric soil indicator. Wetland hydrology indicators were observed including Surface Water (A1), High Water Table (A2), Inundation Visible on Aerial Imagery (B7), and Water-Stained Leaves (B9). A water table and surface water were both present at DP1 at 4 inches. While DP1 contains adequate hydric soils and hydrology, it does not contain hydrophytic vegetation to be considered a wetland.

DP2 is located adjacent to and upslope from DP1, and is dominated by Canadian horseweed (FACU) and blackberry (FAC). The vegetation within DP1 does not contain a dominance or prevalence of hydrophytic vegetation. The soils within DP2 consist of silty loam with a color of 2.5Y 4/3 throughout the entire 18 inches of the soil sample, and do not display any redox features or hydric soil indicators. Additionally, no wetland hydrology indicators were observed within DP2, and therefore, DP2 is located within a non-wetland area.

DP3 is located at the downstream terminus of the Placentia Drain in an area dominated by blue elderberry (FACU) and Canadian horseweed (FACU), which are upland species and are not hydrophytic. Soils within DP3 consist of silty loam with a color of 10YR 3/2 in 90% of the sample from 0 to 12 inches, with redox concentrations in 10% of the sample with a color of 10YR 5/4 in the matrix. Despite the presence of redox features, no hydric soil indicators were present. Additionally, no wetland hydrology indicators were observed and therefore, DP3 occurs in a non-wetland area.

DP4 occurs to the west of DP3 in an upland area outside of the channel. The vegetation within DP4 is dominated by blue elderberry (FACU) and Canadian horseweed (FACU), which are upland and not hydrophytic species. Soils within DP4 consist of silty loam with a soil color of 10YR 3/2 in the entire 18 inch soil sample, and do not display any redox features or hydric soil indicators. Additionally, no wetland hydrology indicators were observed within DP4.

Therefore, DP4 is within a non-wetland area, and the majority of the Placentia Drain is considered a non-wetland water of the U.S.

Victoria Pond

The Victoria Pond is located in the northern portion of South Talbert, and was installed in the late 1960's/early 1970's from dredging soil down to the groundwater table. The Cowardin classification for Victoria Pond is PUBHx (Palustrine Unconsolidated Bottom Permanently Flooded Excavated). Vegetation surrounding the pond consists of willows and myoporum, and the majority of the 3.35-acre pond is dominated by open water. Because soils within this pond are regularly inundated they do not contain hydric conditions. Hydrology to the Victoria Pond is supplied via groundwater infiltration. Therefore, the Victoria Pond contains suitable hydrology, but lack hydrophytic vegetation and hydric soils to contain wetland conditions, and is considered a non-wetland water of the U.S.

Unnamed Drainage

A single unnamed drainage feature occurs near the northern portion of South Talbert, and originates at a concrete-lined channel and large box culvert at the eastern project boundary that conveys flows offsite areas onto the project site and drains into the Victoria Pond. This unnamed drainage is earthen bottom and displays an OHWM that is approximately 2 feet wide. The Cowardin classification for the unnamed drainage is PSSAx (Palustrine Scrub-Shrub Temporarily Flooded Excavated). A single data station was placed within the dry channel bottom. DP11 occurs in an area dominated by black willow (FACW) and English ivy (*Hedera helix*; FACU) that is not dominated by hydrophytic vegetation. Soils within DP11 consist of sandy loam with a color of 10YR 3/1 throughout the entire 6 inch soil sample. No redox features or hydric soil indicators were observed in the soil sample. Additionally, no wetland hydrology indicators were observed. Therefore, due to connectivity with the Victoria Pond and lack of wetland indicators, the unnamed drainage is considered a non-wetland water of the U.S.

Concrete-Lined Channel

A single concrete-lined channel originates in upland areas offsite to the northeast and southeast of the project site and drains local runoff, conveying it downstream to the west into the project site boundary and connecting to the unnamed drainage channel via a small culvert. The OWHM of the concrete-lined channel is approximately 5 feet wide north of the confluence with the unnamed drainage, and approximately 2 feet wide south of the confluence. The northern portion of the channel is devoid of vegetation and soil, and the southern portion of the drainage contains Bermuda grass (*Cynodon dactylon*; FACU) growing on sediment that settled in the channel. No hydrophytic vegetation occurs within the concrete-lined channel. No soils that could exhibit hydric indicators occur in the concrete-lined channel, and no wetland hydrology indicators were observed. Therefore, 0.30 acre of concrete-lined channel is considered a non-wetland water of the U.S.

5.2.2 Waters of the State

The features described above as subject to ACOE's jurisdiction as Waters of the U.S. also potentially fall under the authority of the Santa Ana RWQCB in accordance with Section 401 of the CWA. Therefore, a total of approximately 18.77 acres of wetland waters, and a total of approximately 109.4 acres of non-wetland waters delineated within the study area would be subject to RWQCB jurisdiction.

5.2.3 CDFW and CCC Jurisdictional Features

Areas under CDFW and CCC jurisdiction mapped on the study area include a total of 16 features that encompass all wetland and non-wetland waters of the U.S./State, including the top of channel banks and associated riparian habitats (Figures 7-1 through 7-13). Additionally, areas that contained one or two wetland parameters, but did not contain all three to pass the three-parameter test for a federally protected wetland, are also considered wetland waters under CDFW/CCC jurisdiction. The extent of CDFW/CCC jurisdiction for each feature on the study area determined to meet the CDFW/CCC definition of waters are summarized in Table 5 below and account for a total of approximately 140.5 acres.

Table 5. CDFW Jurisdiction Summary

Feature Name	Habitat Type Waters Type	On-Site Acres	Off-Site Acres	Total
Santa Ana River	Open Water Unvegetated Streambed	0.0	69.17	69.17
Banning Channel	Open Water Unvegetated Streambed	0.41	14.78	15.19
Fairview Channel	Concrete Channel Unvegetated Streambed	0.77	1.39	2.16
Pond E	Cattail Marsh/Open Water Emergent Wetland (Lacustrine)	0.0	1.71	1.71
FP Channel	Open Water Riparian Streambed	0.0	0.24	0.24
Overflow Pond	Open Water Freshwater Pond	0.0	0.19	0.19
Placentia Drain	Mulefat/Blue Elderberry Riparian Streambed	0.08	0.68	0.76
Victoria Pond	Open Water Freshwater Pond	2.82	0.53	3.35
Wetland 1	American Bulrush/Black Willow Thickets Forested Wetland (Palustrine)	2.89	0.37	3.26
Unnamed Drainage	Arroyo Willow Riparian Streambed	0.15	0.0	0.15
Concrete-Lined Channel	Concrete Channel Unvegetated Streambed	0.05	0.0	0.05
Wetland 2	Saltgrass-Pacific Swampfire Salt Marsh (Palustrine)	14.15	1.10	15.25
Wetland 3	Mulefat Thickets Emergent Wetland (Palustrine)	0.0	1.10	1.10
Wetland 4	Black Willow/Mulefat Salt Marsh (Palustrine)	0.30	17.19	17.49
Wetland 5	Mulefat Thickets Black Willow Forested Wetland (Palustrine)	7.65	0.0	7.65

Table 5. CDFW Jurisdiction Summary

Feature Name	Habitat Type Waters Type	On-Site Acres	Off-Site Acres	Total
Wetland 6	Black Willow Forested Wetland (Palustrine)	2.75	0.03	2.78
	Total	**32.02**	**108.48**	**140.5**

* Acreage may not total due to rounding.

5.3 Jurisdictional Delineation Conclusion

The study area supports thirteen features that are considered waters of the U.S. and state, and an additional four features that are also under the jurisdiction of CDFW and the CCC. Table 6 below summarizes the extent of each regulatory agency's jurisdiction within the project site and survey buffer, for each type of waters/wetlands. The study area contains a total of approximately 90.82 acres of non-wetland waters of the U.S. and state, and a total of approximately 24.86 acres of wetland waters of the U.S. and state, for a total potential ACOE/RWQCB jurisdiction of 115.68 acres. Additionally, the delineation determined that a total of approximately 140.32 acres of CDFW/CCC jurisdiction, consisting of 49.92 acres of CDFW/CCC wetlands and 90.4 acre of non-wetland waters that occurs within the study area.

Table 6. Jurisdictional Delineation Summary

Jurisdiction	Cowardin Classification/Waters Type	Project Area (On-Site) Acres	Project Survey Buffer (Off-Site) Acres	Total Acres
Jurisdictional Waters of the U.S. and State				
ACOE/RWQCB	**Wetland Waters**			
	Intermittent Stream	0.15	0.001	0.151
	Perennial Pond	2.82	0.53	3.35
	Wetland	17.02	4.34	21.36
	Wetland Waters Subtotal	*19.99*	*4.87*	*24.86*
	Non-Wetland Water			
	Ephemeral Drainage	0.20	0.25	0.45
	Intermittent Stream	1.26	15.47	16.73
	Perennial Pond	2.82	1.35	4.17
	Perennial Stream	–	69.47	69.47
	Non-Wetland Waters Subtotal	*4.28*	*86.47*	*90.82*
	ACOE/RWQCB Waters Total	***24.27***	***91.34***	***115.68***
CDFW and CCC Jurisdictional Waters				
CDFW/CCC Wetlands/Riparian Habitat	**Wetland Waters**			
	Lacustrine Emergent	–	1.71	1.71
	Palustrine Emergent (Forested Wetland and Salt Marsh)	28.1	18.96	47.06

Table 6. Jurisdictional Delineation Summary

Jurisdiction	Cowardin Classification/Waters Type	Project Area (On-Site) Acres	Project Survey Buffer (Off-Site) Acres	Total Acres
	Streambed - Riparian	0.23	0.92	1.15
	Wetland Waters Subtotal	28.33	21.59	49.92
	Non-Wetland Waters			
	Freshwater Pond	2.82	0.72	3.54
	Unvegetated Streambed	1.23	85.63	86.86
	Non-Wetland Waters Subtotal	4.05	86.35	90.4
	CDFW/CCC Jurisdiction Total	***32.38***	***107.94***	***140.32***

Notes:
* Acreage may not total due to rounding.

6 Recommendations

The proposed project includes the restoration of the project site for a public park facility with mixed uses. The final restoration design has not been completed, however, any restoration treatments that result in temporary or permanent impacts to potentially jurisdictional waters would be considered significant and require regulatory agency permitting prior to implementation. If the final design results in project-related impacts to jurisdictional features an ACOE 404 permit, RWQCB 401 Certification, CDFW Streambed Alteration Agreement, and CCC Coastal Development Permit will be required to permit the impacts to waters. Mitigation to offset these impacts would also be required, however, the proposed project is a restoration project and the applicant may be able to mitigate impacts on site through the project. A pre-application meeting is recommended with the regulatory agencies to ensure the project will include adequate mitigation for the proposed impacts.

Should you have any questions regarding this report or require additional information, please do not hesitate to contact me at tmolioo@dudek.com or 949.373.8308.

Sincerely,

Tommy Molioo
Senior Biologist

Att.: *Attachment A – Figures*
Attachment B – Jurisdictional Delineation Forms
Attachment C – Site Photos

7 References

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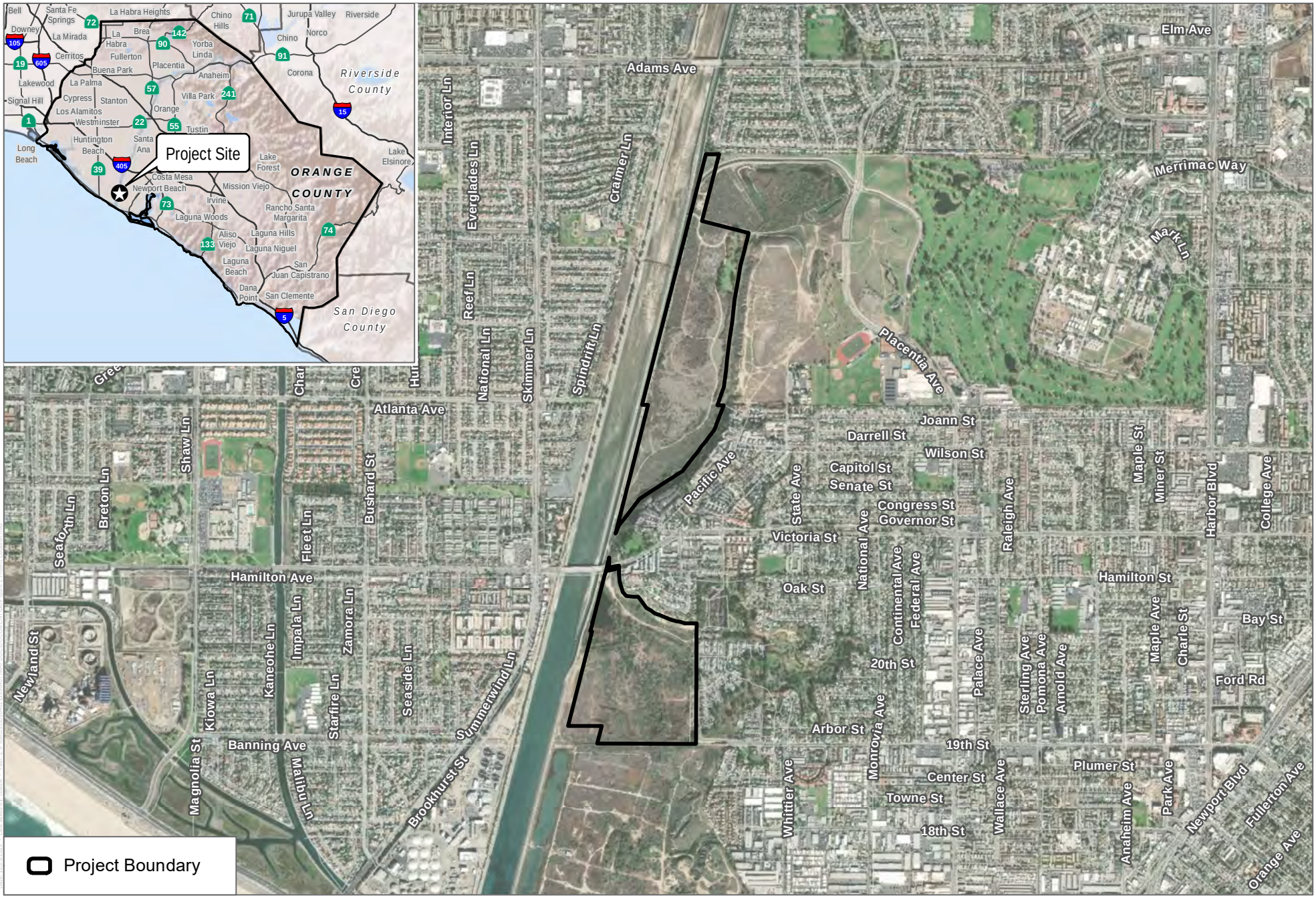
Attachment A

Figures



SOURCE: DigitalGlobe 2017

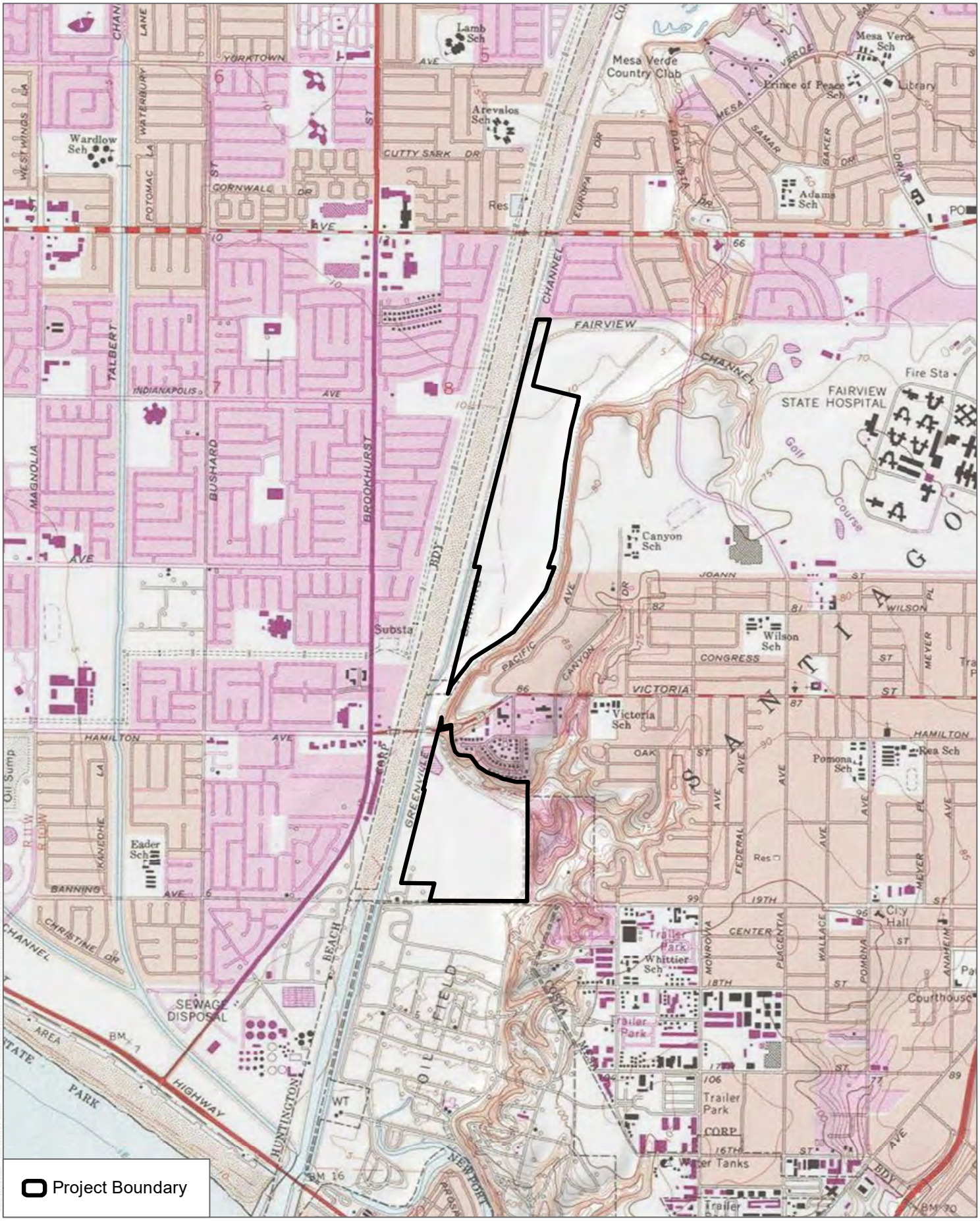
DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Talbert Regional Park



SOURCE: USGS 7.5-Minute Series Newport Beach Quadrangle

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0 1,000 2,000 Feet

FIGURE 2

Local Vicinity

Talbert Regional Park

SOURCE: USGS 7.5-Minute Series Newport Beach Quadrangle

DUDEK

FIGURE 3

Soils

Talbert Regional Park

SOURCE: ESRI 2020

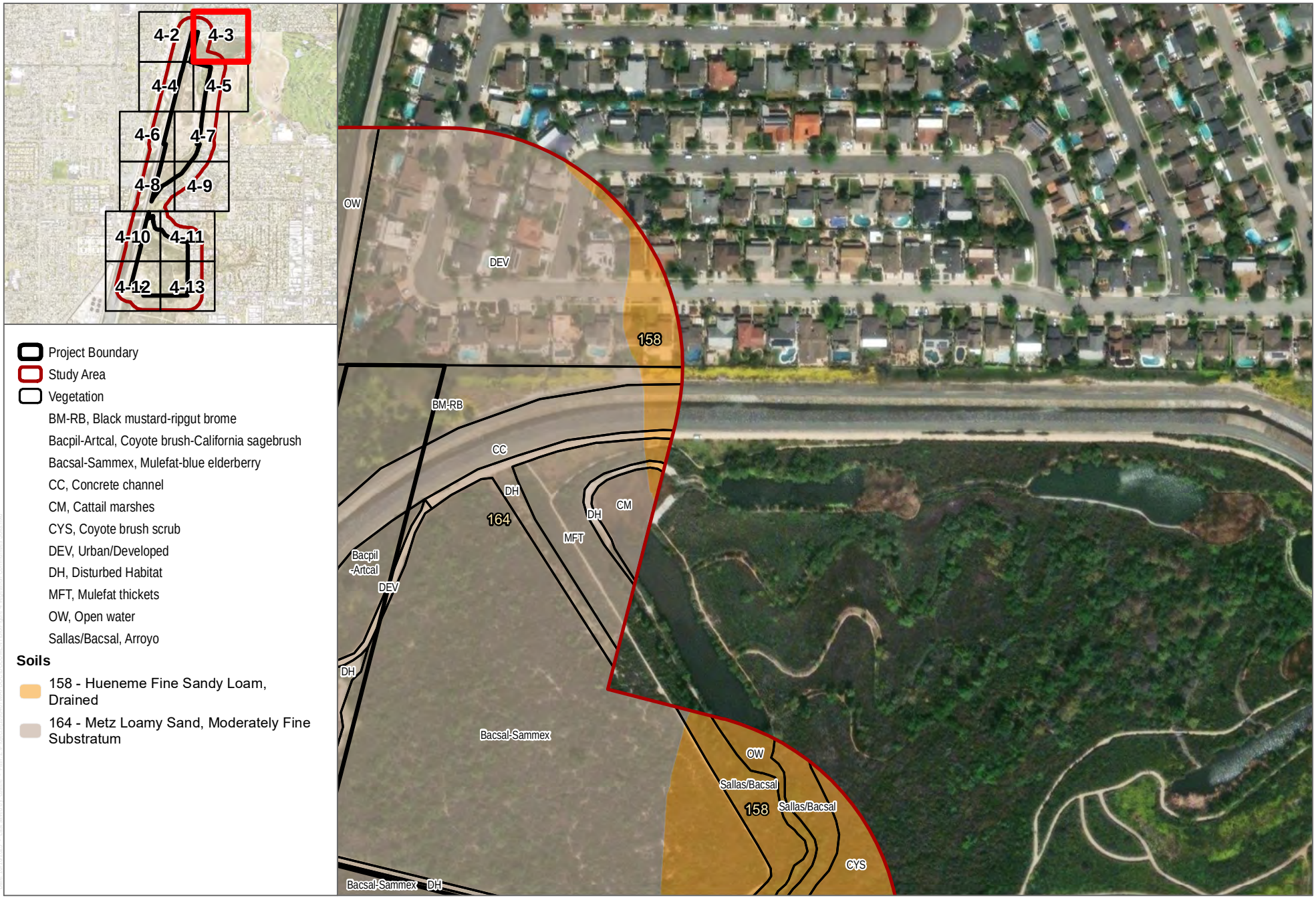
DUDEK

0 125 250 Feet

FIGURE 4-1

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

DUDEK

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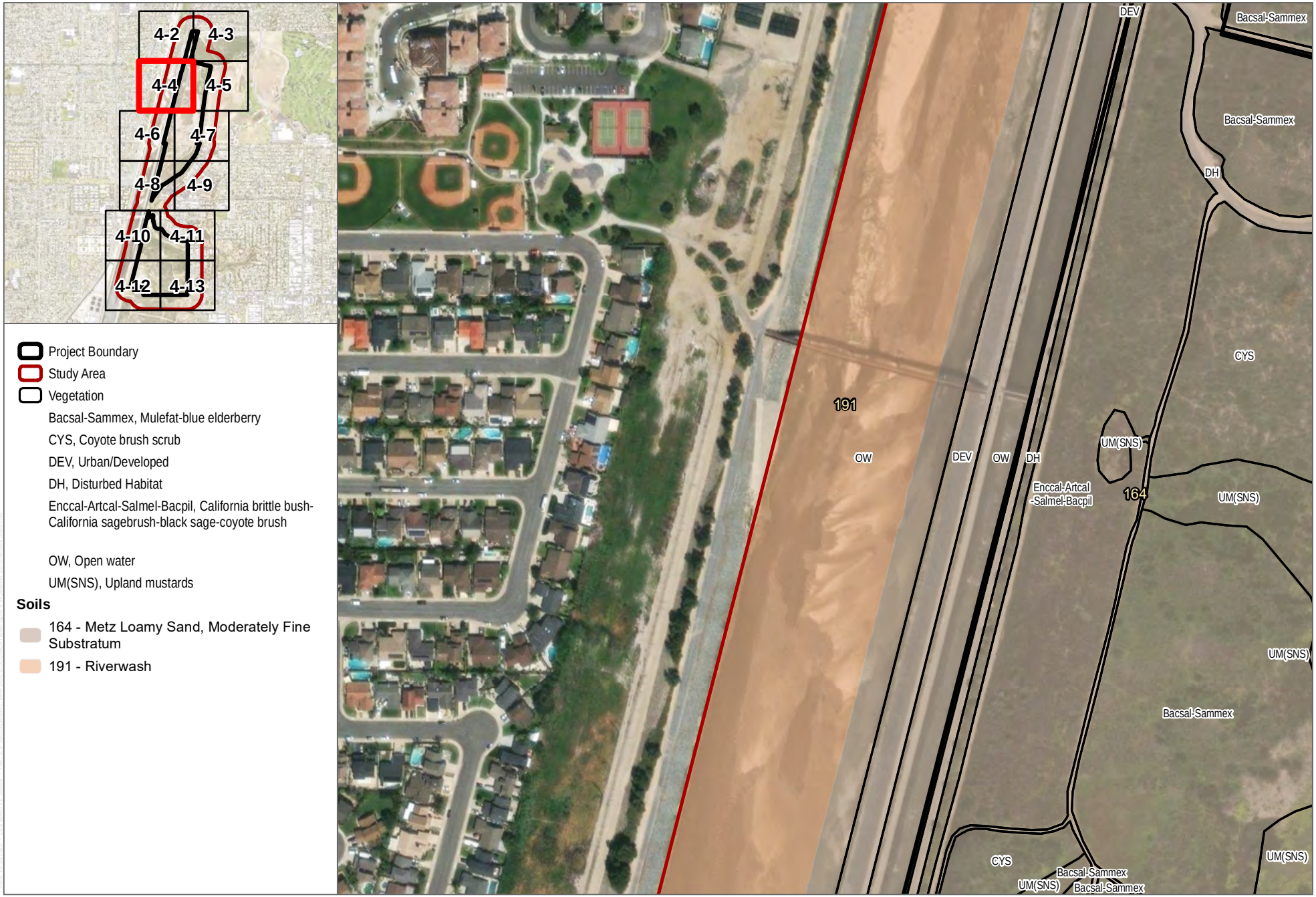
FIGURE 4-2

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

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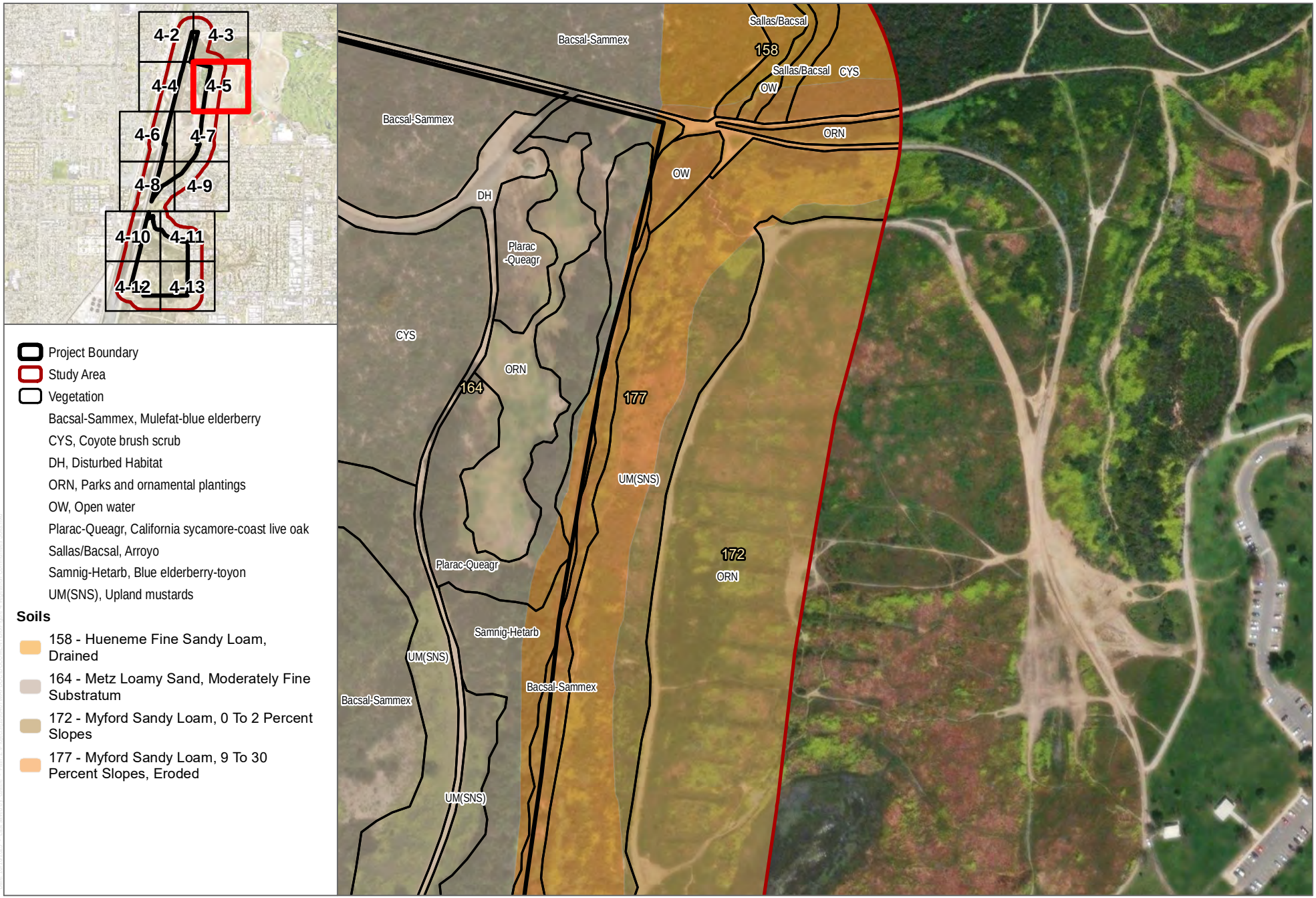
FIGURE 4-3

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

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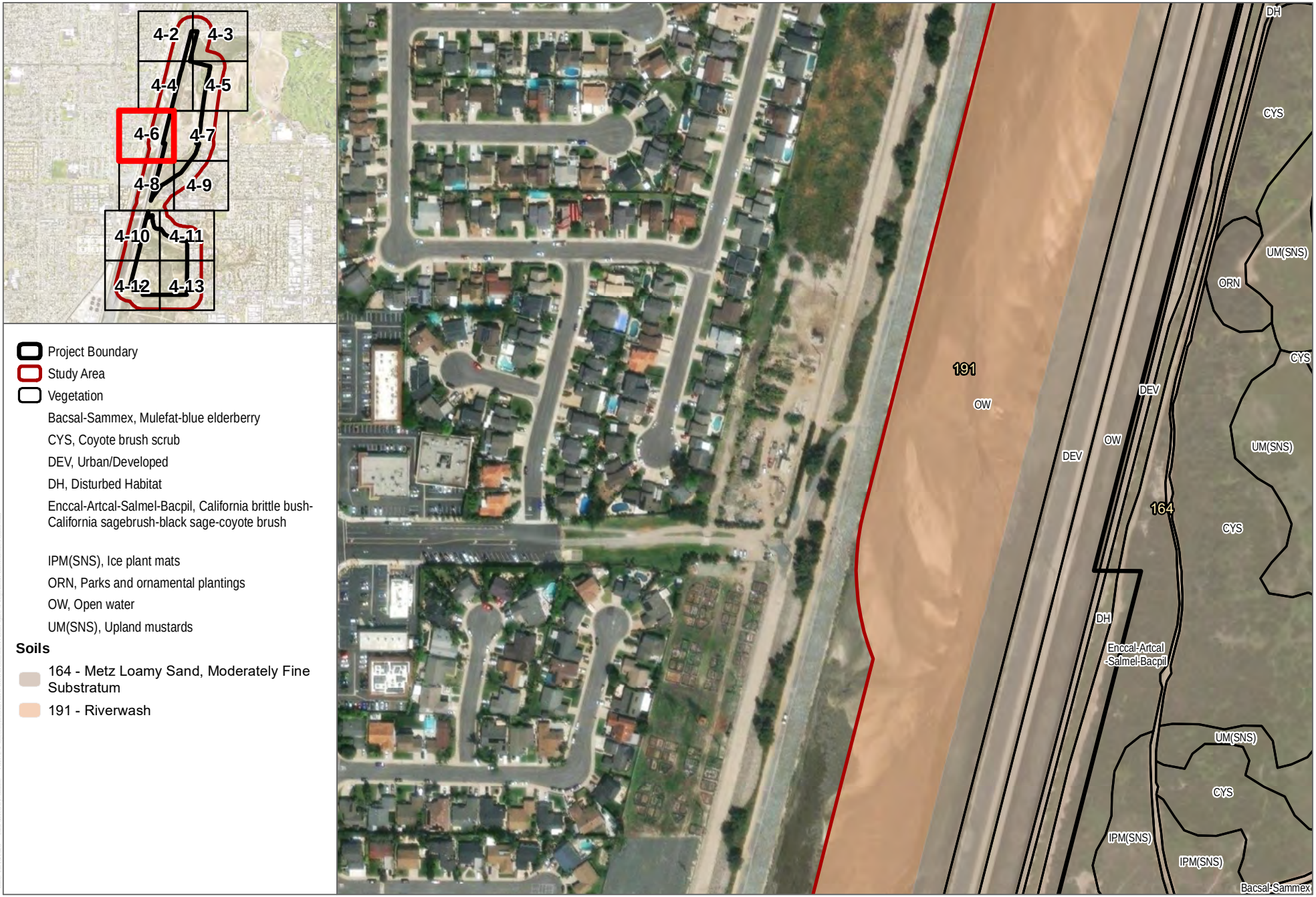
FIGURE 4-4

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

DUDEK

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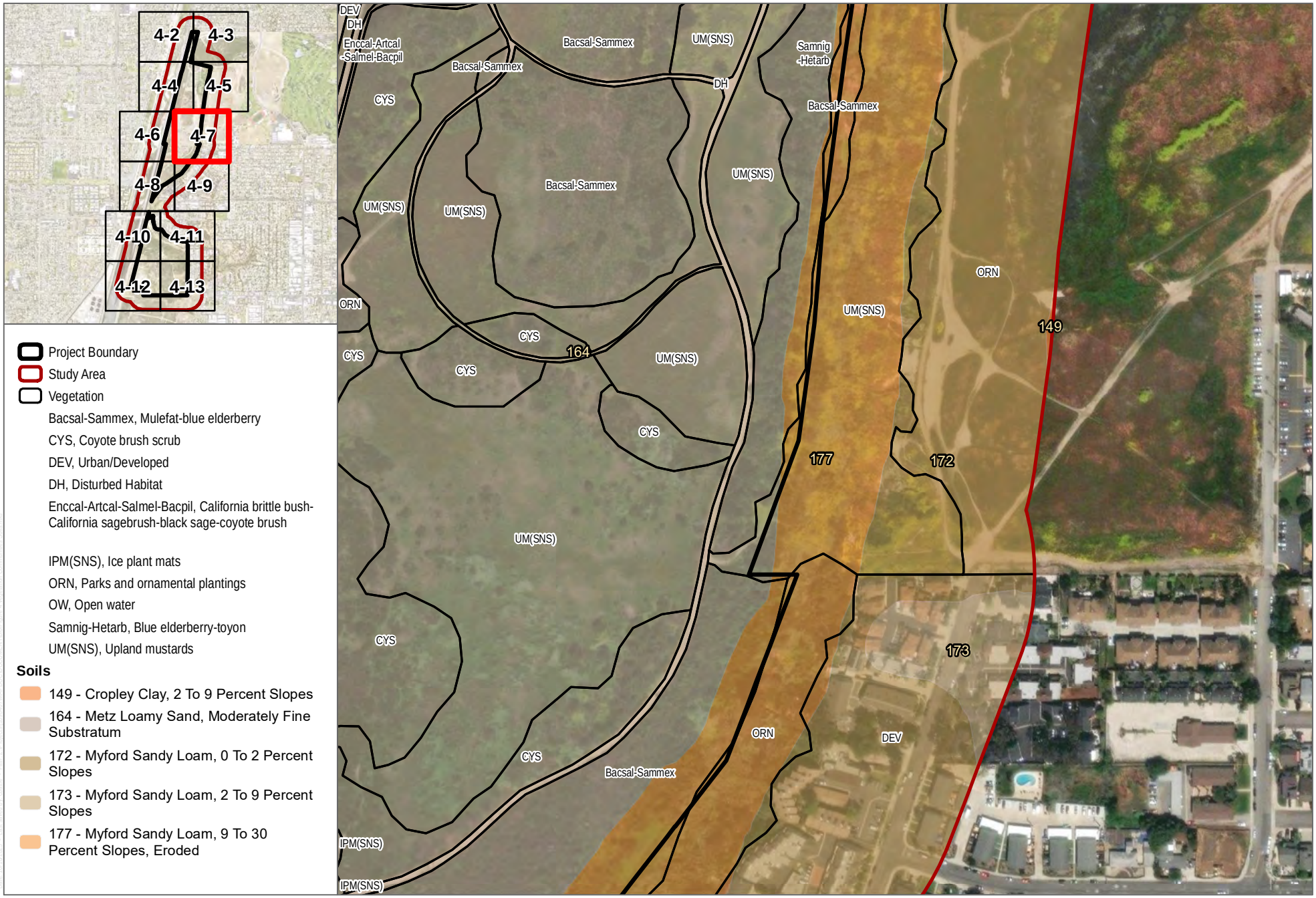
FIGURE 4-5

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

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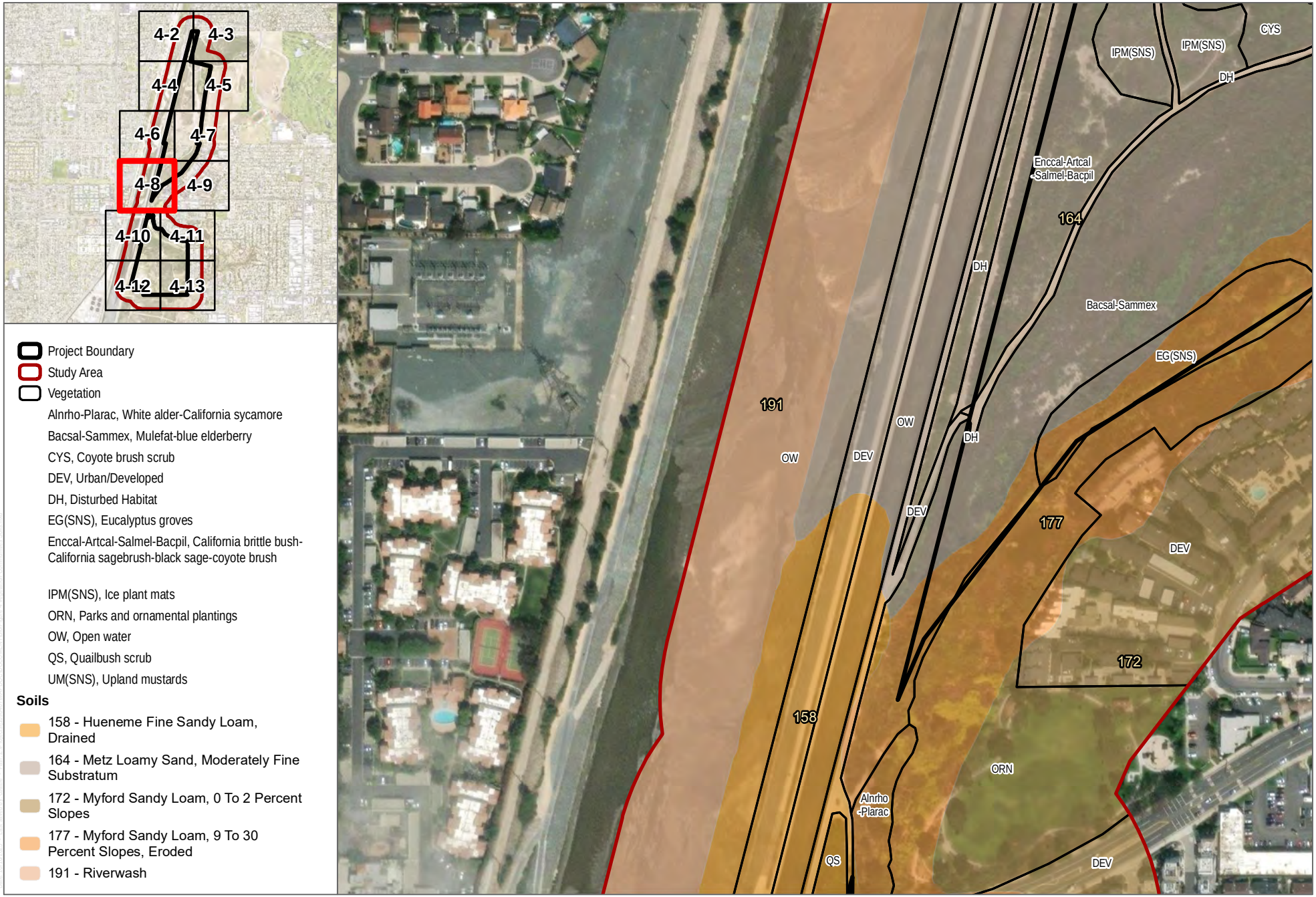
FIGURE 4-6

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

DUDEK

0 125 250 Feet

FIGURE 4-7

Vegetation Communities and Land Covers

Talbert Regional Park

SOURCE: ESRI 2020

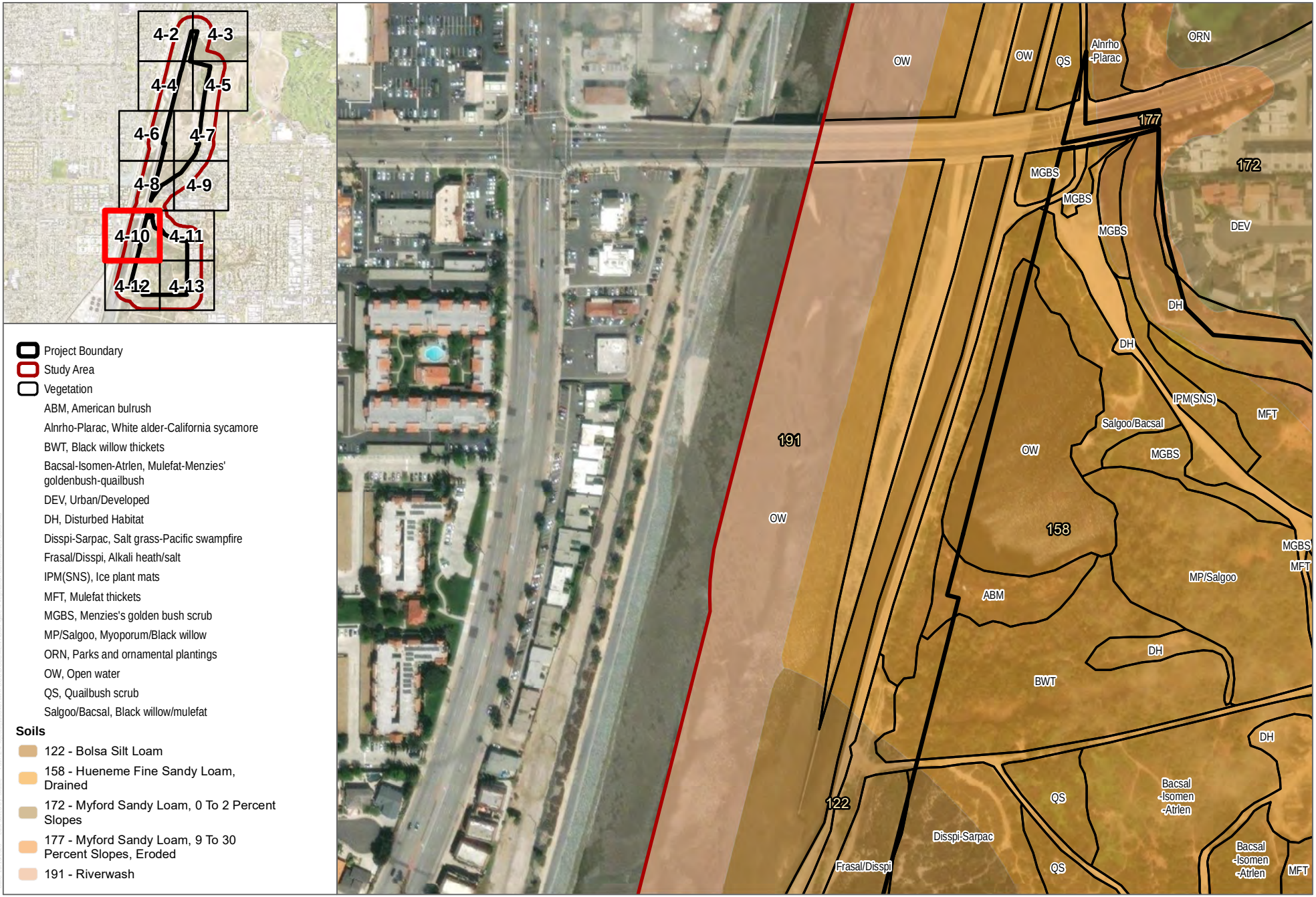
DUDEK

0 125 250 Feet

FIGURE 4-8

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

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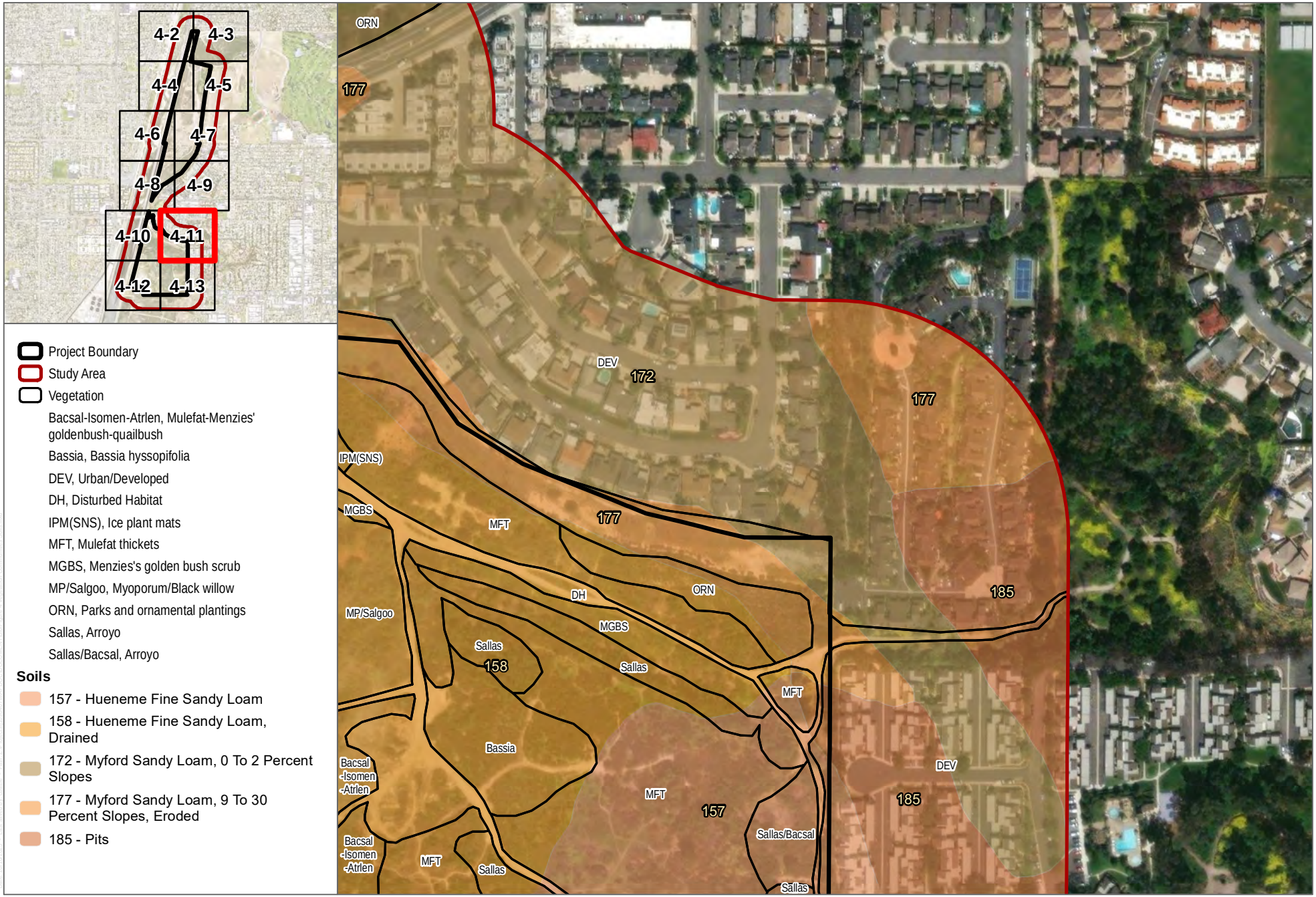
FIGURE 4-9

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

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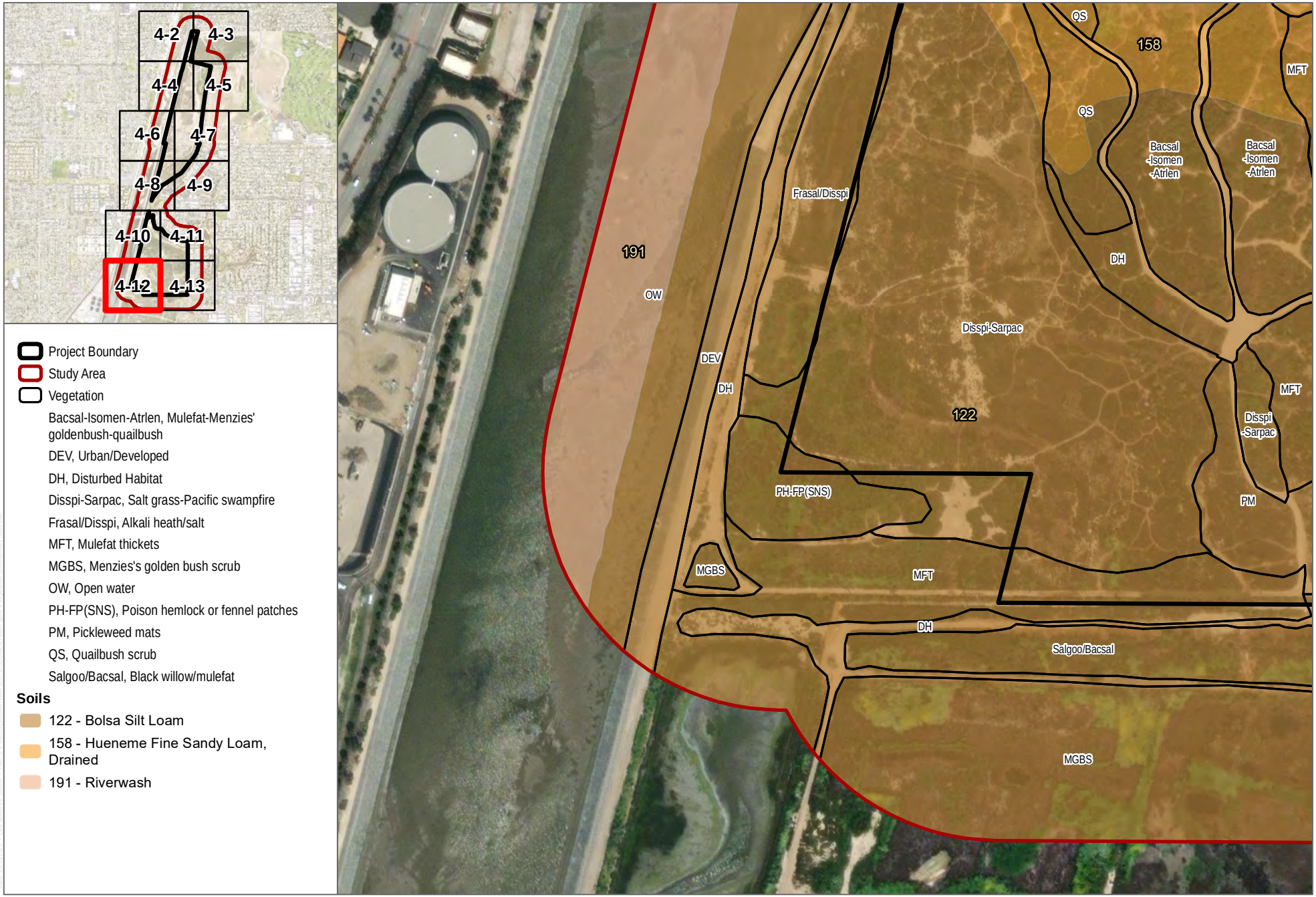
FIGURE 4-10

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

DUDEK

0 125 250 Feet

FIGURE 4-11

Vegetation Communities and Land Covers

Talbert Regional Park

SOURCE: ESRI 2020

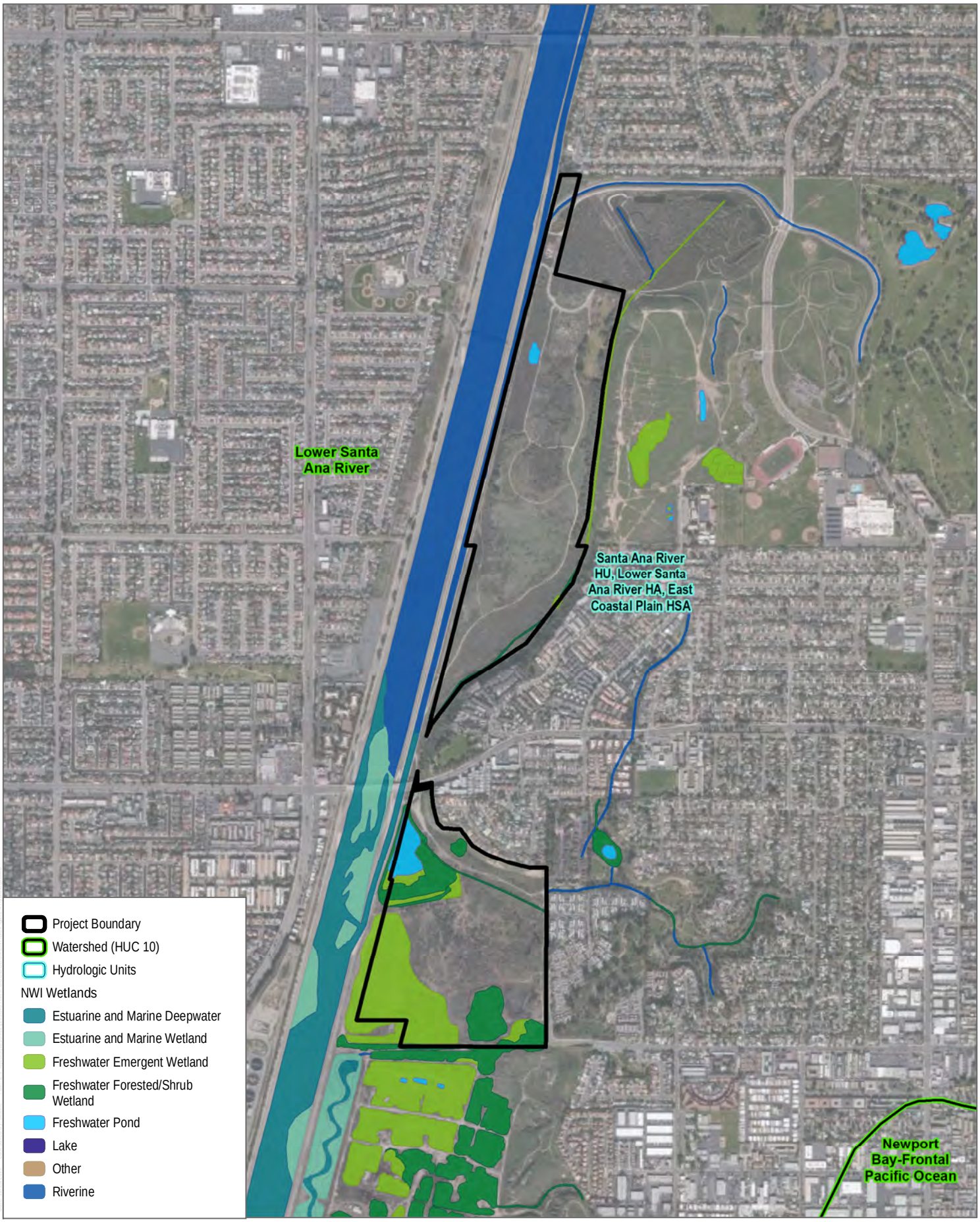
DUDEK

0 125 250 Feet

FIGURE 4-12

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: Bing, NWI 2019

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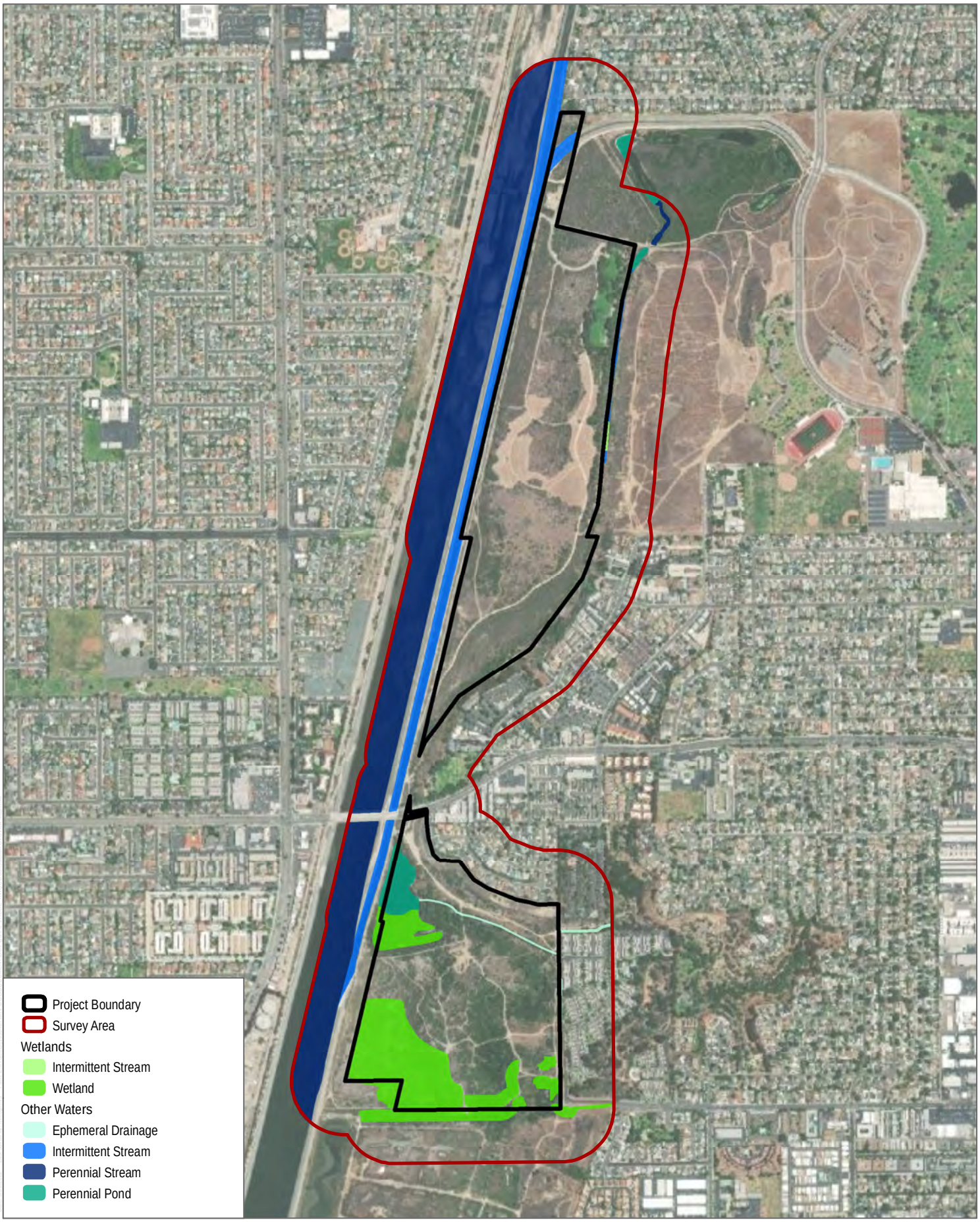
FIGURE **5**

Hydrology

Talbert Regional Park



SOURCE: ESRI 2020

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FIGURE 6-1

ACOE/RWQCB Jurisdiction Overview

Talbert Regional Park

SOURCE:

DUDEK

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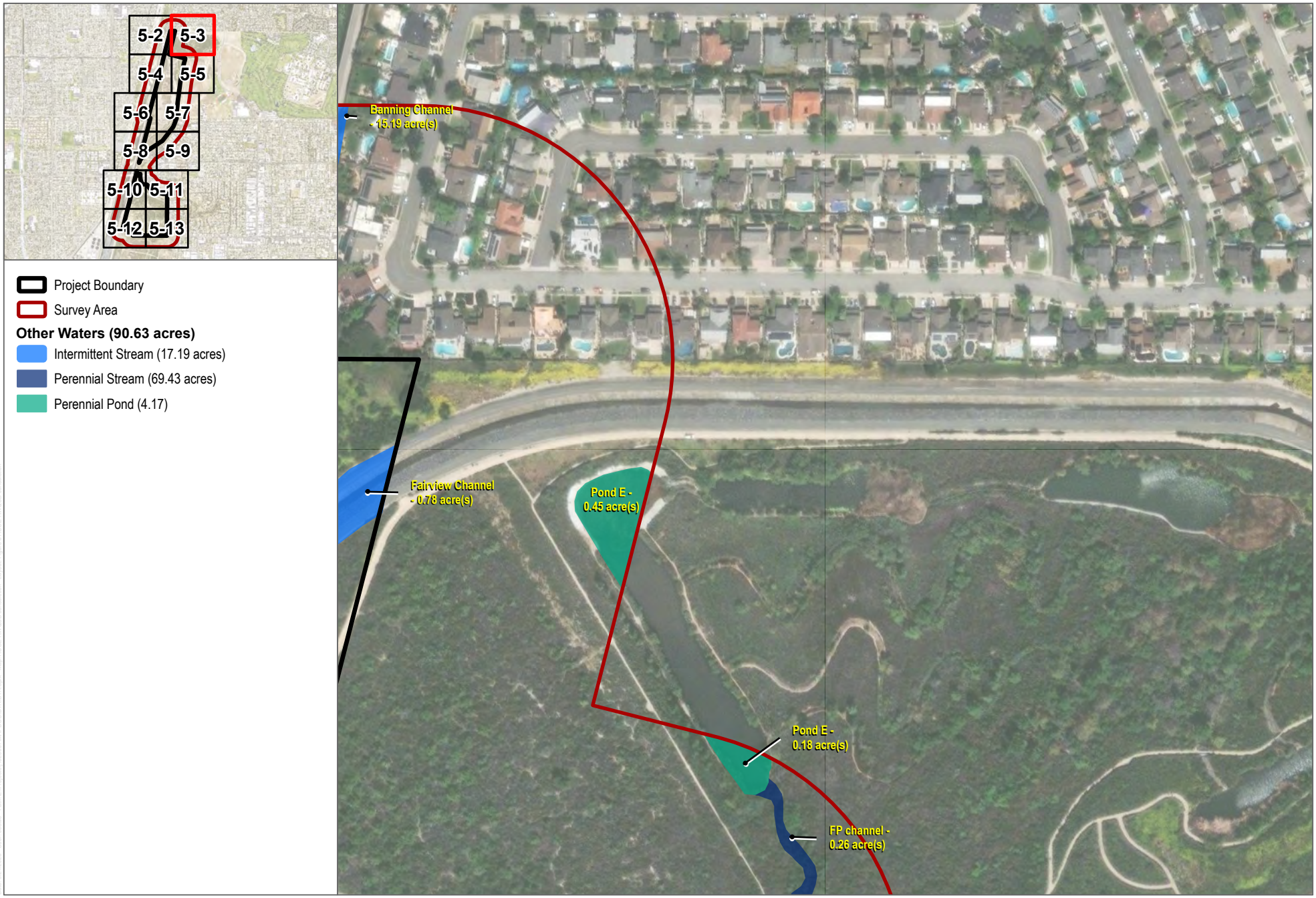
FIGURE 6-2

ACOE/RWQCB Jurisdiction

Talbert Regional Park



SOURCE:

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FIGURE 6-3

ACOE/RWQCB Jurisdiction

Talbert Regional Park

SOURCE:

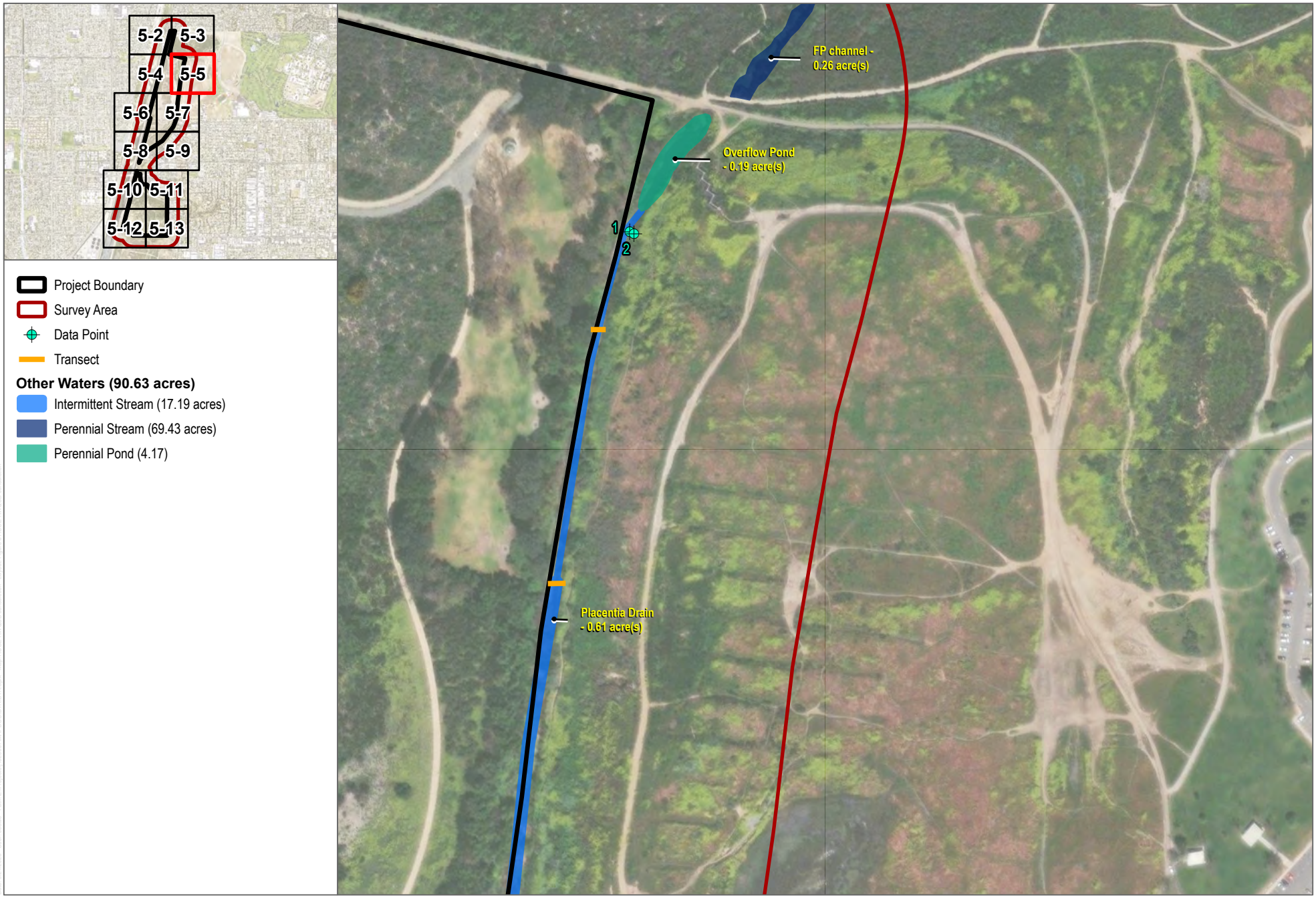
DUDEK

0 125 250 Feet

FIGURE 6-4

ACOE/RWQCB Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-5

ACOE/RWQCB Jurisdiction

Talbert Regional Park

SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-6

ACOE/RWQCB Jurisdiction

Talbert Regional Park

SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-7

ACOE/RWQCB Jurisdiction

Talbert Regional Park

SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-8

ACOE/RWQCB Jurisdiction

Talbert Regional Park

SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-9

ACOE/RWQCB Jurisdiction

Talbert Regional Park

SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-10

ACOE/RWQCB Jurisdiction

Talbert Regional Park

SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-11

ACOE/RWQCB Jurisdiction

Talbert Regional Park

SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-12

ACOE/RWQCB Jurisdiction

Talbert Regional Park

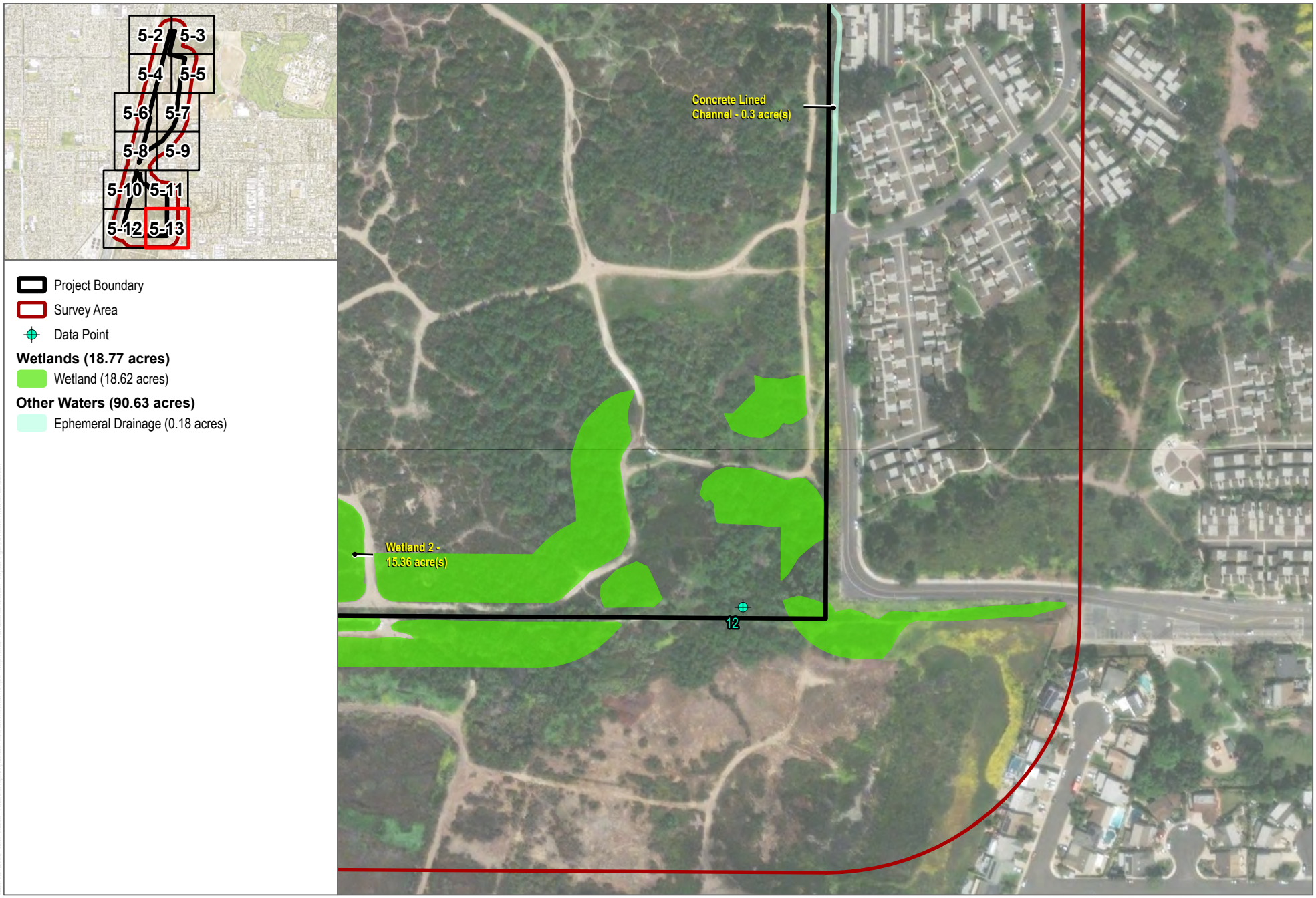


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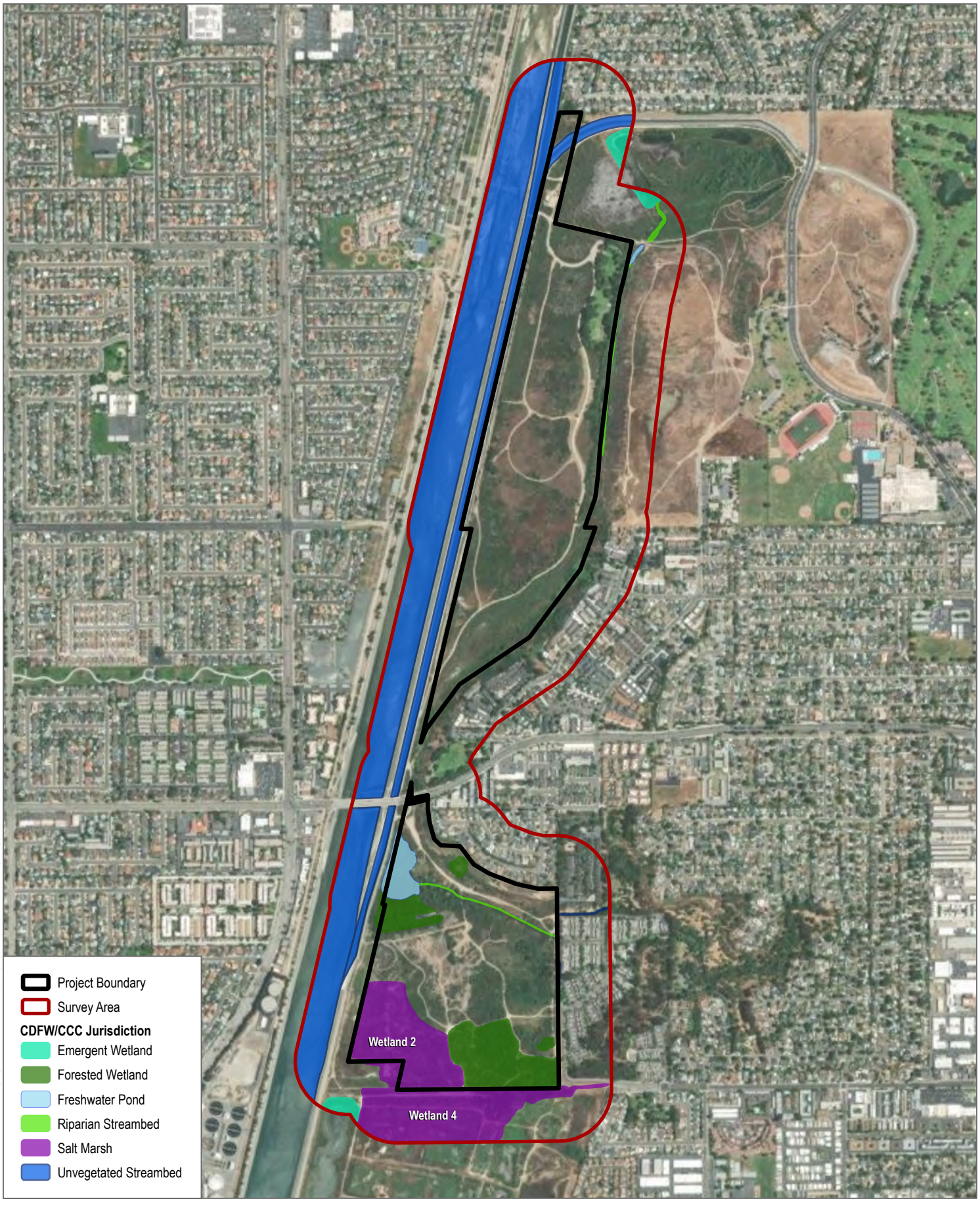
FIGURE 6-13

ACOE/RWQCB Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 500 1,000 Feet

FIGURE 7-1

CDFW/CCC Jurisdiction Overview

Talbert Regional Park

SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-2

CDFW/CCC Jurisdiction

Talbert Regional Park

SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-3

CDFW/CCC Jurisdiction

Talbert Regional Park

SOURCE:

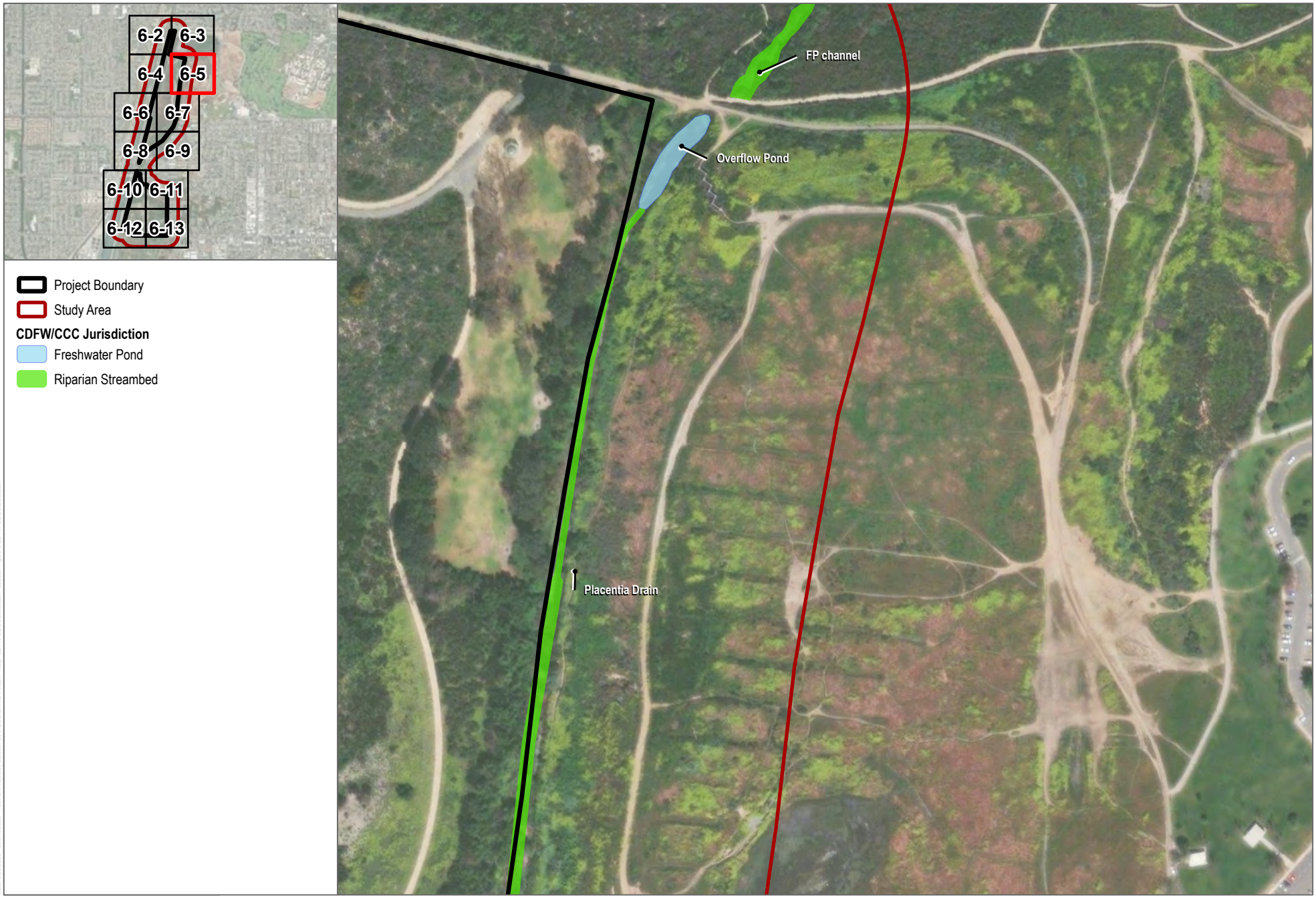
DUDEK

0 125 250 Feet

FIGURE 7-4

CDFW/CCC Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-5

CDFW/CCC Jurisdiction

Talbert Regional Park

SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-6

CDFW/CCC Jurisdiction

Talbert Regional Park

FIGURE 7-7

CDFW/CCC Jurisdiction

Talbert Regional Park

SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-8

CDFW/CCC Jurisdiction

Talbert Regional Park

SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-9

CDFW/CCC Jurisdiction

Talbert Regional Park

SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-10

CDFW/CCC Jurisdiction

Talbert Regional Park

SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-11

CDFW/CCC Jurisdiction

Talbert Regional Park

SOURCE:

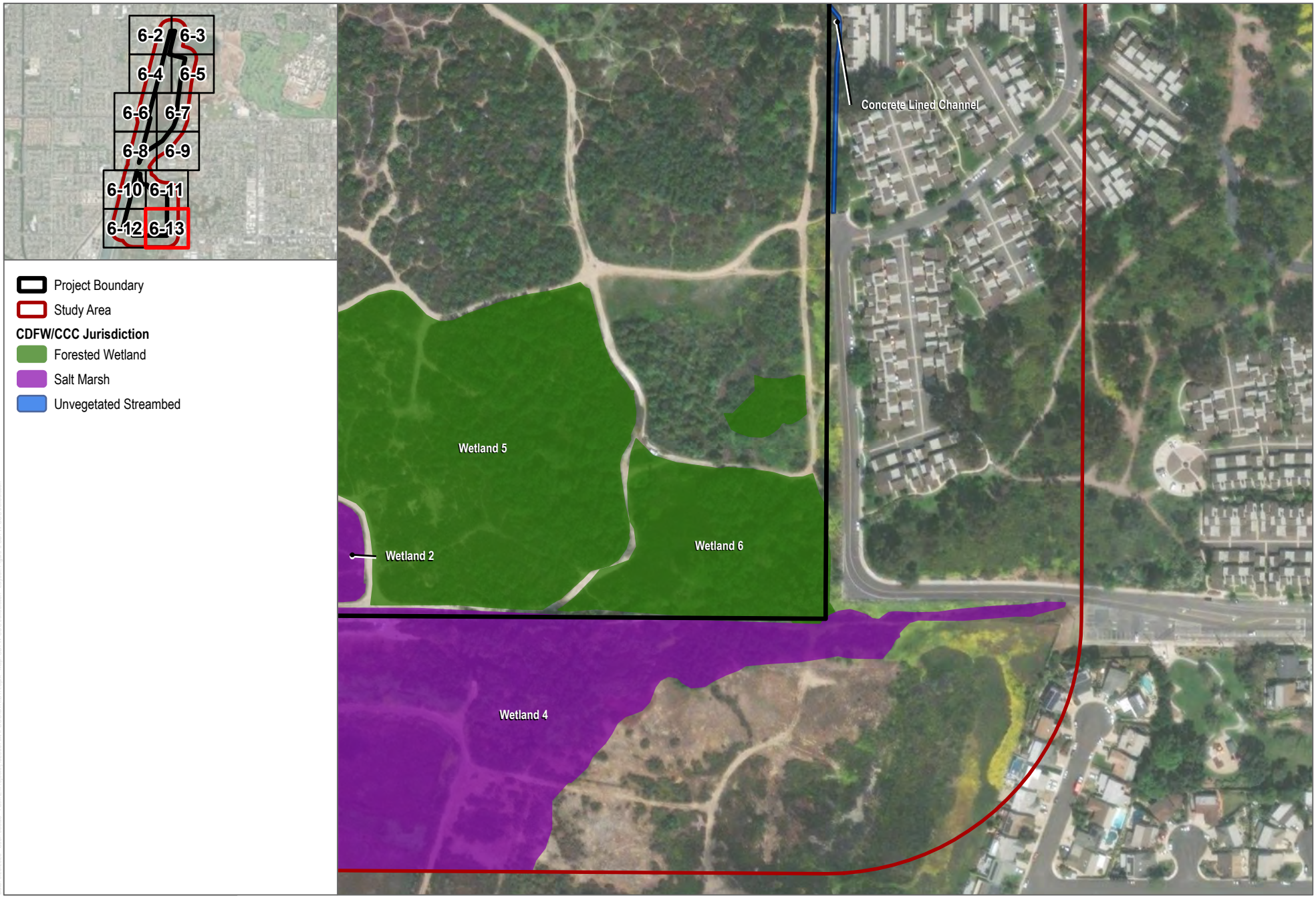
DUDEK

0 125 250 Feet

FIGURE 7-12

CDFW/CCC Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-13

CDFFW/CCC Jurisdiction

Talbert Regional Park

Attachment B

Jurisdictional Delineation Forms

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa, OC | Sampling Date: 10/23/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP1

Investigator(s): Tommy M. , Eilleen S. | Section, Township, Range:

Landform (hillslope, terrace, etc.): toe of slope | Local relief (concave, convex, none): Concave | Slope (%): 1

Subregion (LRR): C - Mediterranean California | Lat: 117°56'35.075"W | Long: 33°39'52.159"N | Datum: NAD83

Soil Map Unit Name: Myford Sandy Loam | NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [X] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Data pit dug just downstream of where pond historically stopped. Channel 2 meters wide.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Platanus racemosa*	5	Yes	FAC
2. *Rosa californica*	2	No	FAC
3.			
4.			
Total Cover:	7 %		
Sapling/Shrub Stratum			
1. *Rubus ursinus*	50	Yes	UPL
2. *Pluchea odorata*	3	No	FACW
3. *Cyperus involucratus*	2	No	FACW
4. *Erigeron canadensis*	15	Yes	FACU
5.			
Total Cover:	70 %		
Herb Stratum			
1. *Lemna sp.*	50	Yes	OBL
2. *Rubus ursinus*	5	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	55 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 13 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	5	x 2 =	10
FAC species	12	x 3 =	36
FACU species	15	x 4 =	60
UPL species	50	x 5 =	250
Column Totals:	132 (A)		406 (B)

Prevalence Index = B/A = 3.08

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: DP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	2.5Y 2.5/1	98	2.5Y 6/8	2	C	M	Silty Clay Loam	
6-7								Organic Layer
7-9	2.5Y 3/1	90	Gley1 2.5/N	10	RM	M	Silty loam	less clay
9-12	2.5Y 3/1	95	Gley1 2.5N	5	RM	M	Silty loam	less clay

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☒ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☒ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 4 in

Water Table Present? Yes ◉ No ○ Depth (inches): 4 in

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa, OC | Sampling Date: 10/23/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP2

Investigator(s): Tommy M. and Eilleen S. | Section, Township, Range:

Landform (hillslope, terrace, etc.): toe of slope | Local relief (concave, convex, none): Concave | Slope (%): 1

Subregion (LRR): C - Mediterranean California | Lat: 117°56'34.969"W | Long: 33°39'52.114"N | Datum: NAD83

Soil Map Unit Name: Myford Sandy Loam | NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [X] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: About feet away from DP1

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Erigeron canadensis*	55	Yes	FACU
2. *Rubus ursinus*	25	No	FAC
3. *Pluchea odorata*	5	No	FACW
4.			
5.			
Total Cover:	85 %		
Herb Stratum			
1. *Ricinus communis*	1	No	FACU
2. *Rubus ursinus*	15	Yes	FAC
3. *Hirschfeldia incana*	1	No	UPL
4.			
5.			
6.			
7.			
8.			
Total Cover:	17 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 13 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	5	x 2 =	10
FAC species	40	x 3 =	120
FACU species	56	x 4 =	224
UPL species	1	x 5 =	5
Column Totals:	102 (A)		359 (B)

Prevalence Index = B/A = 3.52

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: DP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-18	2.5Y 4/3	100	-	-			Silty Loam	upland

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa, OC | Sampling Date: 10/23/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP3

Investigator(s): Tommy M. and Eilleen S. | Section, Township, Range:

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): Concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°56'38.036"W | Long: 33°39'35.281"N | Datum: NAD83

Soil Map Unit Name: Myford Sandy Loam | NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ○ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ○ No ○

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: Furthest downstream end of "channel"

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ricinus communis*	2	No	FACU
2. *Nicotiana glauca*	10	No	FAC
3. *Sambucus nigra*	25	Yes	FACU
4.			
Total Cover:	37 %		
Sapling/Shrub Stratum			
1. *Erigeron canadensis*	75	Yes	FACU
2. *Nicotiana glauca*	5	No	FAC
3. *Baccharis pilularis*	2	No	UPL
4.			
5.			
Total Cover:	82 %		
Herb Stratum			
1. *Nicotiana glauca*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	5 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 10-15% | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	20	x 3 =	60
FACU species	102	x 4 =	408
UPL species	2	x 5 =	10
Column Totals:	124 (A)		478 (B)

Prevalence Index = B/A = 3.85

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

SOIL

Sampling Point: DP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	10YR 3/2	90	10YR 5/4	10	C	M	Silty Loam	Previously inundated

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa, OC | Sampling Date: 10/23/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP4

Investigator(s): Tommy M. and Eilleen S. | Section, Township, Range:

Landform (hillslope, terrace, etc.): toe of slope | Local relief (concave, convex, none): concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°56'38.304"W | Long: 33°39'35.187"N | Datum: NAD83

Soil Map Unit Name: Myford Sandy Loam | NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Next to DP3

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ricinus communis*	2	No	FACU
2. *Sambucus nigra*	20	Yes	FACU
3. *Nicotiana glauca*	5	No	FACU
4.			
Total Cover:	27 %		
Sapling/Shrub Stratum			
1. *Foeniculum vulgare*	15	No	UPL
2. *Erigeron canadensis*	65	Yes	FACU
3. *Baccharis pilularis*	10	No	UPL
4.			
5.			
Total Cover:	90 %		
Herb Stratum			
1. *Nicotiana glauca*	1	No	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	1 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	93	x 4 =	372
UPL species	25	x 5 =	125
Column Totals:	118 (A)		497 (B)

Prevalence Index = B/A = 4.21

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: DP4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-18	10YR 3/2		-	-			Silty loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa/ OC | Sampling Date: 10/23/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP5

Investigator(s): Tommy M., Eilleen S. | Section, Township, Range:

Landform (hillslope, terrace, etc.): toe of slope | Local relief (concave, convex, none): concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°56'38.136"W | Long: 33°39'37.029"N | Datum: NAD83

Soil Map Unit Name: Myford Sandy Loam | NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Sal

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Sambucus nigra*	15	No	FACU
2. *Rhus integrifolia*	20	Yes	UPL
3.			
4.			
Total Cover:	35 %		
Sapling/Shrub Stratum			
1. *Cyperus eragrostis*	40	Yes	FACW
2. *Erigeron canadensis*	10	No	FACU
3. *Solanum americanum*	10	No	FACU
4. *Pluchea odorata*	20	No	FACW
5. *Salix lutea*	10	No	OBL
Total Cover:	90 %		
Herb Stratum			
1. *Solanum americanum*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	5 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	60	x 2 =	120
FAC species		x 3 =	0
FACU species	40	x 4 =	160
UPL species	20	x 5 =	100
Column Totals:	130 (A)		390 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: DP5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-3								Organic layer
3-18	2.5Y 3/1	80	2.5Y 5/6	20	C	PL	Silty Loam	Adjacent to ponded area. Unifor

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 1

Water Table Present? Yes ◉ No ○ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 1

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa/ OC | Sampling Date: 10/23/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP6

Investigator(s): Tommy M. and Eilleen S. | Section, Township, Range:

Landform (hillslope, terrace, etc.): toe of slope | Local relief (concave, convex, none): concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°56'38.386"W | Long: 33°39'37.078"N | Datum: NAD83

Soil Map Unit Name: Myford Sandy Loam | NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Sambucus nigra*	20	No	FACU
2. *Rhus integrifolia*	25	Yes	UPL
3.			
4.			
Total Cover:	45 %		
Sapling/Shrub Stratum			
1. *Solanum sp.*	30	Yes	FACU
2. *Erigeron canadensis*	20	No	FACU
3. *Rhus integrifolia*	15	No	UPL
4. *Foeniculum vulgare*	10	No	UPL
5.			
Total Cover:	75 %		
Herb Stratum			
1. *Solanum sp.*	2	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	2 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 3 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	72	x 4 =	288
UPL species	50	x 5 =	250
Column Totals:	122 (A)		538 (B)

Prevalence Index = B/A = 4.41

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: DP6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-18	10YR 3/2	100	-	-			Silty Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ◉ No ○ Depth (inches): 18

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa/ OC | Sampling Date: 10/23/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP7

Investigator(s): Tommy M. and Tracy P. | Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none): Concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°56'56.999"W | Long: 33°38'52.702"N | Datum: NAD83

Soil Map Unit Name: Hueneme Fine Sandy Loam | NWI classification: PFOCX

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Depressional area adjacent to bulrush marsh- intermittent canopy

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix goodingii*	12	Yes	FACW
2. *Schinus terebinthifolia*	3	No	FAC
3.			
4.			
Total Cover:	15 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Pluchea odorata*	35	Yes	FAC
2. *Persicaria punctata*	5	No	OBL
3. *Schoenoplectus sp.*	1	No	OBL
4. *Heliotropium curassavicum*	3	No	FACU
5.			
6.			
7.			
8.			
Total Cover:	44 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum: 40 % | % Cover of Biotic Crust: %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	6	x 1 =	6
FACW species	12	x 2 =	24
FAC species	38	x 3 =	114
FACU species	3	x 4 =	12
UPL species		x 5 =	0
Column Totals:	59 (A)		156 (B)

Prevalence Index = B/A = 2.64

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: High leaf litter cover- included in bear ground

SOIL

Sampling Point: DP7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-3								Organic Layer
3-12	2.5Y 3/2	80	7.5 YR 4/6	20	C	M	Sandy Loam	Edge of wetland. Uniform throu

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☒ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☒ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No surface water. No high water table. No saturation.
*Water marks on tree trunks

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa/ OC | Sampling Date: 10/30/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP8

Investigator(s): Tommy M. and Tracy P. | Section, Township, Range:

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°56'59.111"W | Long: 33°38'51.41"N | Datum: NAD83

Soil Map Unit Name: Hueneme Fine Sandy Loam | NWI classification: PFOCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Data pit is located on road

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix gooddingii*	20	Yes	FACW
2. *Myoporum sp.*	5	No	
3.			
4.			
Total Cover:	25 %		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	30	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	30 %		
Herb Stratum			
1. *Bassia hyssopifolia*	15	Yes	FACU
2. *Polygonum sp.*	1	No	
3. *Chenopodium sp.*	5	No	
4. *Pulicaria paludosa*	3	No	FAC
5.			
6.			
7.			
8.			
Total Cover:	24 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 10 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	20	x 2 =	40
FAC species	33	x 3 =	99
FACU species	15	x 4 =	60
UPL species		x 5 =	0
Column Totals:	68 (A)		199 (B)

Prevalence Index = B/A = 2.93

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: DP8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-2								
2-12	2.5Y 4/2	95	7.5 YR 4/6	5	C	M	Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Salt deposits in sample

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☒ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Salt crust isminimal. No signs of flow. Likely inundates during flood events

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa/ OC | Sampling Date: 10/30/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP9

Investigator(s): Tommy M. and Tracy P. | Section, Township, Range:

Landform (hillslope, terrace, etc.): flat | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°57'3.692"W | Long: 33°38'50.421"N | Datum: NAD83

Soil Map Unit Name: Hueneme Fine Sandy Loam | NWI classification: PFOCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Upland point SW corner of pond

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Myoporum sp.*	20	Yes	
2. *Salix gooddingii*	10	No	FACW
3.			
4.			
Total Cover:	30 %		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	5	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	5 %		
Herb Stratum			
1. *Salicornia pacifica*	75	No	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	75 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 15 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	10	x 2 =	20
FAC species	5	x 3 =	15
FACU species		x 4 =	0
UPL species	75	x 5 =	375
Column Totals:	90 (A)		410 (B)

Prevalence Index = B/A = 4.56

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: DP9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-10	2.5Y 4/3	100	-				Silty loam	No Redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Shovel refusal at 10"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☒ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa/ OC | Sampling Date: 10/30/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP10

Investigator(s): Tommy M. and Tracy P. | Section, Township, Range:

Landform (hillslope, terrace, etc.): Flats | Local relief (concave, convex, none): None | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°57'1.304"W | Long: 33°38'47.682"N | Datum: NAD83

Soil Map Unit Name: Hueneme Fine Sandy Loam (drained) | NWI classification: PEM1Ah

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Shrubby areas south of the pond

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	15	Yes	FAC
2. *Isocoma Menziesii*	5	No	FAC
3. *Atriplex lentiformis*	2	No	
4.			
5.			
Total Cover:	22 %		
Herb Stratum			
1. *Juncus acutus*	2	No	FACW
2. *Elymus sp.*	50	Yes	
3. *Pluchea odorata*	1	No	FACW
4. *Rumex crispus*	2	No	FAC
5. *Salicornia pacifica*	1	No	UPL
6.			
7.			
8.			
Total Cover:	56 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	3	x 2 =	6
FAC species	22	x 3 =	66
FACU species		x 4 =	0
UPL species	1	x 5 =	5
Column Totals:	26 (A)		77 (B)

Prevalence Index = B/A = 2.96

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: DP10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-10	10 YR 3/2	97	10 YR 3/6	3	C	M	Silty Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No evidence of hydrology

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park City/County: Costa Mesa/ OC Sampling Date: 10/30/19

Applicant/Owner: State: CA Sampling Point: DP11

Investigator(s): Tommy M. and Tracy Park Section, Township, Range:

Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 117°56'43.958"W Long: 33°38'50.177"N Datum: NAD83

Soil Map Unit Name: Hueneme Fine Sandy Loam NWI classification: PSSAx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Uniform throughout

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus uhdei*	15	No	*UPL*
2. *Salix gooddingii*	30	Yes	FACW
3.			
4.			
Total Cover:	45 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hedera helix*	80	Yes	FACU
2. *Cyperus involucratus*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	85 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	35	x 2 =	70
FAC species		x 3 =	0
FACU species	80	x 4 =	320
UPL species		x 5 =	0
Column Totals:	115 (A)		390 (B)

Prevalence Index = B/A = 3.39

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: DP11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10 YR 3/1	100	-					No redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Roots compaction

Depth (inches): 6

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Low flow channel. Receives flow from upstream culvert/ stormdrain

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa/ OC | Sampling Date: 10/30/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP12

Investigator(s): Tommy M. and Tracy Park | Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°56'44.611"W | Long: 33°38'35.936"N | Datum: NAD83

Soil Map Unit Name: Pits | NWI classification: PFO/SSA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: NWI mapped as forested wetland

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	80	Yes	FACW
2. *Schinus molle*	1	No	FACU
3.			
4.			
Total Cover:	81 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 100% % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	80	x 2 =	160
FAC species		x 3 =	0
FACU species	1	x 4 =	4
UPL species		x 5 =	0
Column Totals:	81 (A)		164 (B)

Prevalence Index = B/A = 2.02

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Leaf litter

SOIL

Sampling Point: DP12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-2								Organic
2-10	10YR 3/1	100						No redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa/ OC | Sampling Date: 10/30/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP13

Investigator(s): Tommy M. and Tracy Park | Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): None | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°56'55.278"W | Long: 33°38'37.238"N | Datum: NAD83

Soil Map Unit Name: Bolsa Silt Loam | NWI classification: PEM1Ah

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes (●) No ( )

Hydric Soil Present? Yes (●) No ( )

Wetland Hydrology Present? Yes (●) No ( )

Is the Sampled Area within a Wetland? Yes (●) No ( )

Remarks: Pickleweed area in southern portion of project
Wetland adjacent to the Santa Ana River

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Sarcocornia pacifica*	95	Yes	OBL
2. *Distichlis spicata*	5	No	FAC
3. *Frankenia salina*	2	No	FACW
4.			
5.			
6.			
7.			
8.			
Total Cover:	102%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	95	x 1 =	95
FACW species	2	x 2 =	4
FAC species	5	x 3 =	15
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	102 (A)		114 (B)

Prevalence Index = B/A = 1.12

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: DP13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-3	-	-	-	-				Organic Layer
3-12	10YR 3/1	95	10YR 3/6	5	C	M	Silty Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☒ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park City/County: Costa Mesa/ OC Sampling Date: 10/30/19

Applicant/Owner: OC Parks State: CA Sampling Point: DP14

Investigator(s): Tommy M. and Tracy P. Section, Township, Range:

Landform (hillslope, terrace, etc.): Flats Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 117°57'2.072"W Long: 33°38'42.315"N Datum: NAD83

Soil Map Unit Name: Bolsa Silt Loam NWI classification: PEM1Ah

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Sarcocornia area in SW portion of project
Wetland adjacent to the Santa Ana River

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Sarcocornia pacifica*	30		OBL
2. *Sporobolus airoides*	22		FAC
3. *Distichlis spicata*	28		FAC
4.			
5.			
6.			
7.			
8.			
Total Cover:	80 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 20 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species		x 2 =	0
FAC species	50	x 3 =	150
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	80 (A)		180 (B)

Prevalence Index = B/A = 2.25

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: DP14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-10	10YR 4/2	99	10YR 4/6	1	C	M	Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Mapped as Bolsa silt loam. Silt has taken on clay characteristics over time.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☒ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No regular influx of water from a channel; hydrology received through groundwater and adjacent tidal flows.

Attachment C

Site Photos

Appendix C
Photo Documentation

Photo 1: Taken from the ponded area in the northeast corner of Talbert North, facing south. Note upland vegetation surrounding pond.

Photo 2: Taken from Data Point 1 (DP1) (wetland point) at the northern portion of Talbert North, facing north (upstream).

Photo 3: Taken from DP1 (wetland point) at the northern portion of Talbert North, facing southwest (downstream).

Photo 4: Taken from DP2 (upland point) at the northern portion of Talbert North, facing north (upstream).

Photo 5: Taken from DP2 (upland point) at the northern portion of Talbert North, facing south (downstream).	**Photo 6:** Taken from DP3 (upland point) at the downstream end of Placentia Drain, facing north (upstream).
Photo 7: Taken from DP3 (upland point) at the downstream end of Placentia Drain, facing south (downstream).	**Photo 8:** Taken from DP5 (wetland point) facing north (upstream) towards Placentia Drain.

Photo 9: Taken from DP5 (wetland point), facing south (downstream) towards Placentia Drain.

Photo 10: Taken from DP6 (upland point) adjacent to Placentia Drain. Facing north (upstream).

Photo 11: Taken from DP6 (upland point) facing south (downstream).

Photo 12: Taken from the downstream reach of the Placentia Drain, facing north (upstream).

Photo 13: Taken at DP7 (wetland point), in Talbert South, facing north (upstream).	**Photo 14:** Taken at DP7 (wetland point), facing south (downstream).
Photo 15: Taken at DP8 (wetland point) facing west (upstream).	**Photo 16:** Taken from DP8 (wetland point) facing south (downstream).

Photo 17: Taken from DP9 (upland point) facing north (upstream).

Photo 18: Taken from DP9 (upland point) facing south (downstream).

Photo 19: Taken from DP10 (upland point) in Talbert South, facing north (upstream).

Photo 20: Taken from DP10 (upland point) at the northern portion of Talbert North, facing north (upstream).

Photo 21: Taken from DP11 (upland point) near the eastern boundary of Talbert South, facing east (downstream).	**Photo 22:** Taken from DP11 (upland point), facing west (upstream).
Photo 23: Taken from DP12 (upland point) near the southeast corner of Talbert South, facing north (upstream).	**Photo 24:** Taken from DP12 (upland point) facing north (upstream).

Photo 25: Taken from DP13 (wetland point), facing north (upstream) towards pickleweed mats.

Photo 26: Taken from DP13 (wetland point) facing south (downstream).

Photo 27: Taken from DP14 (wetland point) facing north (upstream).

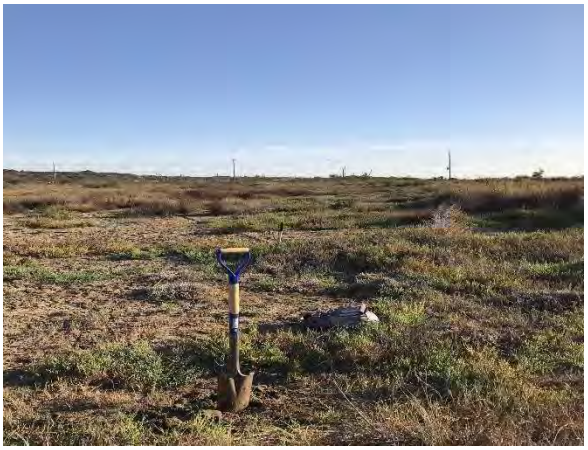


Photo 28: Taken from DP14 (wetland point) facing south (downstream).

Appendix C
Cultural Resources Inventory Report

DRAFT

Cultural Resources Inventory Report

Talbert Regional Park Master Plan Project

NOVEMBER 2025

Prepared for:

ORANGE COUNTY DEPARTMENT OF PUBLIC WORKS
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National Archaeological Database (NADB) Information

Authors:	Roshanne Bakhtiary, MA, RPA and Ted Roberts, MA, RPA
Firm:	Dudek
Project Proponent:	Orange County Department of Public Works
Report Date:	November 2025
Report Title:	Cultural Resources Inventory Report, Talbert Regional Park Master Plan Project
Type of Study:	Phase I Cultural Resources Inventory
Resources:	None
USGS Quads:	Newport Beach, California 7.5' Quadrangle (1:24,000); T6S, R10W, unsectioned portion of Rancho Santiago de Santa Ana
Acreage:	182 acres
Keywords:	OC Parks; Negative; Talbert Regional Park; Phase I Inventory

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B NAHC SLF Search Results

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AB	Assembly Bill
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
County	County of Orange
CRHR	California Register of Historical Resources
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
OC Parks	Orange County Parks Department
OCPW	Orange County Department of Public Works
Park	Talbert Regional Park
PRC	California Public Resources Code
Project	Talbert Regional Park Master Plan Update
SLF	Sacred Lands File
SCCIC	South Central Coastal Information Center
USGS	United States Geological Survey

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Management Summary

This report presents the results of Dudek's cultural resources inventory efforts conducted for the Talbert Regional Park Master Plan Update Project (Project), located in the City of Costa Mesa, California. The Project falls within an unsectioned portion of Township 6 South and Range 10 West of the *Newport Beach, California* United States Geological Survey (USGS) 7.5 Minute Series Quadrangle (Figure 1, Project Location). The Project proposes key improvements, infrastructure improvements, and habitat restoration improvements to the 182-acre Talbert Regional Park as established by the 2025 Master Plan (Figure 2, Project Area).

The Orange County Department of Public Works Development Services (OCPW) is the lead agency responsible for compliance with the California Environmental Quality Act (CEQA). Dudek performed a Phase I cultural resources inventory that included a records search, a literature review, an archival information review, a review of the geomorphological context of the Project area, a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search, a pedestrian survey of the Project area, and the preparation of this cultural resources inventory report.

Dudek conducted a California Historical Resources Information System (CHRIS) records search of the Project area and surrounding 0.5-mile radius at the South Central Coastal Information Center (SCCIC). The records search identified six (6) previously recorded prehistoric archaeological resources, two (2) historic-era built environment resources, one (1) historic-era archaeological resource, and one (1) multicomponent archaeological resource within 0.5 miles of the Project area, none of which intersect with the Project area. Notably, P-30-000165 (CA-ORA-165), characterized as the archaeologically and tribally significant ethnohistoric Gabrielino village site of *Lukup*, is located directly adjacent to the eastern boundary of the Project area. *Lukup* likely referred to the broader area along the Santa Ana River that encompassed the six (6) prehistoric archaeological resources and the one (1) multicomponent archaeological resource identified in the SCCIC records search.

A NAHC SLF search was also requested for the Project, and results were positive for Native American cultural resources within 0.5 miles of the Project area, though the NAHC did not provide details on what the resource(s) are or where they are located. Additionally, a review of historical aerial photographs and topographic maps indicates that the Project area has remained largely undeveloped and undisturbed, aside from limited disturbances associated with the channelization of the Santa Ana River and Banning Channel along the western boundary of the Project area.

Dudek archaeologists conducted an intensive-level cultural resources pedestrian survey of the Project area on November 22, 2019, and an updated reconnaissance-level pedestrian survey of the Project area on October 29, 2025. Though no cultural resources were identified during either survey, dense vegetation obscured approximately 85 percent of the ground surface, significantly limiting surface visibility.

Based on the presence of significant archaeological resources adjacent to the Project area, and in consideration of the broader pattern of prehistoric use along the coast and near the Santa Ana River, there is a moderate potential for the inadvertent discovery of archaeological resources during Project implementation. Dudek recommends archaeological and Native American monitoring during initial ground disturbing activities for the Project. If disturbed sediments (e.g., fill) or other sediments and formations are identified that do not have the potential to contain significant archaeological resources as defined by CEQA, then monitoring may be reduced or terminated. The requirement for Native American monitoring, while recommended, shall be determined by the lead agency in consultation with the traditionally culturally affiliated tribes with geographic ties to the Project area. Management

recommendations to reduce potential impacts to unanticipated archaeological resources and human remains during construction activities are provided in the Summary and Management Recommendations section of this report.

1 Introduction

Dudek conducted a cultural resources inventory for the Talbert Regional Park Master Plan Update Project (Project) located in the City of Costa Mesa, California. The Orange County Department of Public Works Development Services (OCPW) is the lead agency responsible for compliance with the California Environmental Quality Act (CEQA). Dudek performed a Phase I cultural resources inventory that included a records search, a literature review, an archival information review, a review of the geomorphological context of the Project area, a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search, a pedestrian survey of the Project area, and the preparation of this cultural resources technical report.

1.1 Project Location and Description

The Project is proposed by Orange County Parks Department (OC Parks) in conjunction with the OCPW to install trail, infrastructure, and access improvements within an approximately 182-acre area located both north and south of Victoria Street in the City of Costa Mesa, California (Figure 1, Project Location). The Project falls within an unsectioned portion of Township 6 South and Range 10 West of the *Newport Beach, California* United States Geological Survey (USGS) 7.5 Minute Series Quadrangle (Figure 1, Project Location). The 92.5 acres north of Victoria Street is known as North Talbert, while the 88.5 acres south of Victoria Street is known as South Talbert (collectively called the "Project area" herein).

The Project proposes key improvements, infrastructure improvements, and habitat restoration improvements to Talbert Regional Park as established by the 2025 Master Plan. The proposed key improvement areas are the Nature Center, the Balboa Boulevard Entrance, and Infrastructure Improvements. Specifically, proposed infrastructure improvements include enhancements to the interior circulation system to provide improved multi-modal trails to enhance user experience. The Master Plan also calls for the continuation of existing, permitted restoration practices including the removal of non-native vegetation throughout South Talbert, and at the Placentia Drain within North Talbert. Planting of native coastal sage and riparian tree species is also planned within South Talbert to expand the existing mitigation/restoration areas.

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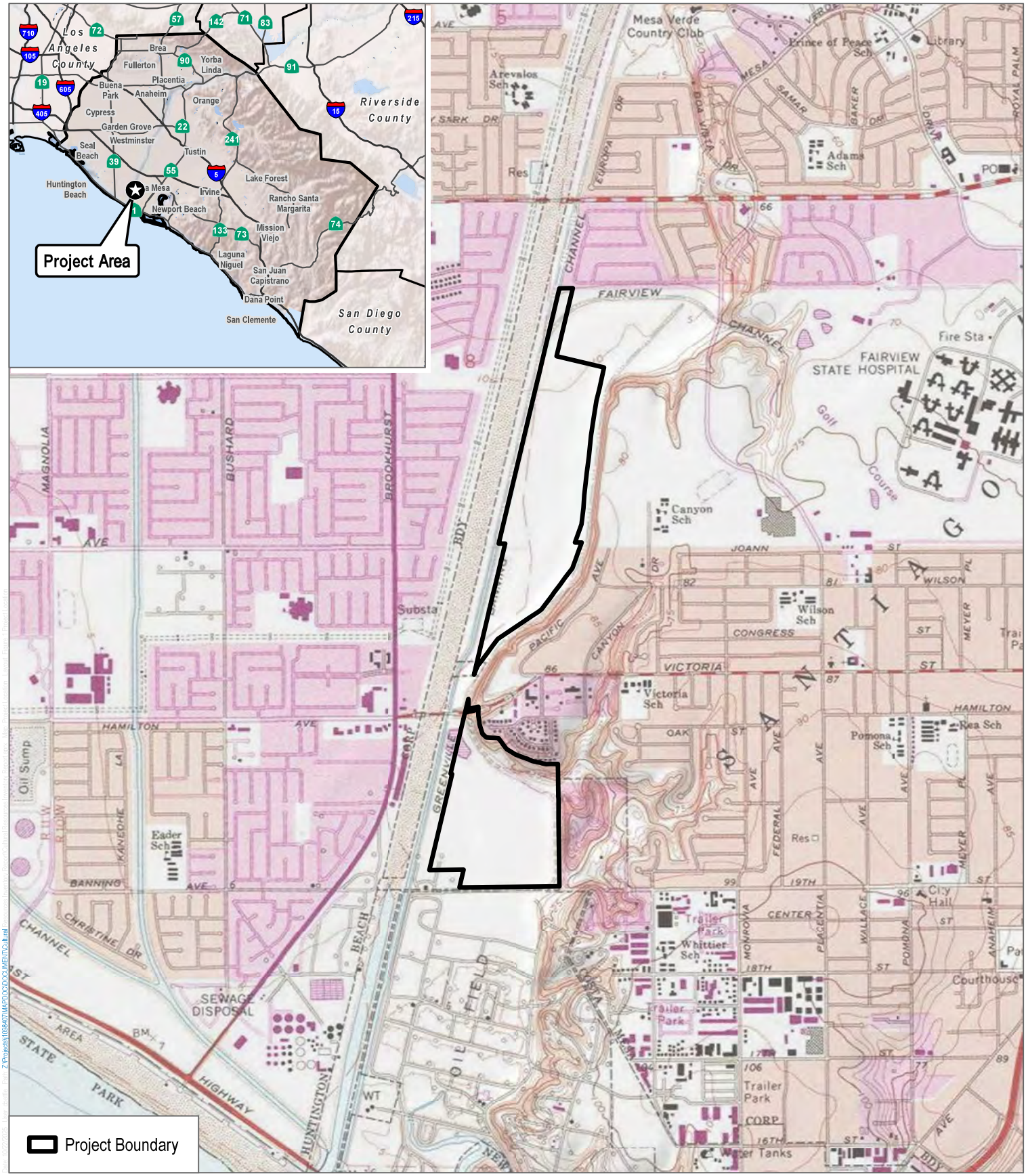

SOURCE: USGS 7.5-Minute Series Newport Beach Quadrangle

DUDEK

0 1,000 2,000 Feet
0 250 500 Meters
1:24,000

FIGURE 1

Project Location

Talbert Regional Park Master Plan Project

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SOURCE: County of Orange; Open Street Maps 2019; DigitalGlobe Accessed 2022

DUDEK

0 380 760 Feet

FIGURE 2
Project Area
Talbert Regional Park Master Plan Project

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1.2 Regulatory Framework

The Project is subject to compliance with CEQA and local regulatory conditions. No federal nexus is presently anticipated.

1.2.1 California Register of Historic Resources

In California, the term "historical resource" includes, but is not limited to, "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (PRC Section 5020.1[j]). In 1992, the California legislature established the California Register of Historical Resources (CRHR) "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the National Register of Historic Place (NRHP), enumerated as follows: According to California Public Resources Code (PRC) Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity" and (ii) meets at least one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

To understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (14 CCR 4852[d][2]).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

1.2.2 California Environmental Quality Act

The following CEQA statutes (PRC Section 21000 et seq.) and CEQA Guidelines (14 CCR 15000 et seq.) are of relevance to the analysis of archaeological, historic, and Tribal Cultural Resources (TCRs):

- PRC Section 21083.2(g) defines "unique archaeological resource."
- PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) defines "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the

significance of an historical resource"; it also defines the circumstances when a project would materially impair the significance of a historical resource.

- PRC Section 21074(a) defines "Tribal Cultural Resources."
- PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e) set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated cemetery.
- PRC Sections 21083.2(b) and 21083.2(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures. Preservation in place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context and may help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

More specifically, under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (PRC Section 21084.1; 14-CCR 15064.5[b]).

A "substantial adverse change in the significance of an historical resource," reflecting a significant effect under CEQA, means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (14- CCR 15064.5[b][1]; PRC Section 5020.1[q]). In turn, the significance of a historical resource is materially impaired when a project does any of the following (14 CCR 15064.5[b][2]):

1. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register [CRHR]; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project area contains any historical resources, then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance would be materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (PRC Sections 21083.2[a]–[c]).

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

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

Impacts on non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2[a]; 14 CCR 15064.5[c][4]). However, if a non-unique archaeological resource qualifies as a TCR (PRC Sections 21074[c] and 21083.2[h]), further consideration of significant impacts is required.

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are detailed in PRC Section 5097.98.

1.2.3 Native American Historic Cultural Sites (California Public Resources Code section 5097 et seq.)

State law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NAHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to one year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

1.2.4 California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act (California Repatriation Act), enacted in 2001, required all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The California Repatriation Act also provides a process for the identification and repatriation of these items to the appropriate tribes.

1.2.5 California Health and Safety Code section 7050.5 and Public Resources Code Section 5097.98

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98.

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. 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 (California Health and Safety Code Section 7050.5[b]). 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 (California Health and Safety Code Section 7050.5[c]). In accordance with California Public Resources Code Section 5097.98(a), the NAHC will notify the Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. Within 48 hours of being granted access to the site, the MLD may recommend means of treatment or disposition, with appropriate dignity, of the human remains and associated grave goods.

1.2.6 Assembly Bill 52

Assembly Bill (AB) 52 of 2014 amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 established that TCRs must be considered under CEQA and also provided for additional Native American consultation requirements for the lead agency. Section 21074 describes a TCR as a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American tribe and that is either:

- On or determined to be eligible for the California Register of Historical Resources or a local historic register; or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1.

AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project area, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report.

Section 1(a)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on TCRs should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to TCRs, the consultation shall include those topics (PRC Section 21080.3.2[a]). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3[a]).

1.2.7 Guidelines for Determining Significance

According to CEQA (§15064.5b), a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. CEQA defines a substantial adverse change:

> Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

The significance of an historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA.

Section 15064.5(c) of CEQA applies to effects on archaeological sites and contains the following additional provisions regarding archaeological sites:

- When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subsection (a).
- If a lead agency determines that the archaeological site is a historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.
- If an archaeological site does not meet the criteria defined in subsection (a) but does meet the definition of a unique archaeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c–f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.
- If an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or Environmental Impact Report (EIR), if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

Section 15064.5(d) and (e) contain additional provisions regarding human remains. Regarding Native American human remains, paragraph (d) provides:

When an initial study identifies the existence of, or the probable likelihood of, Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission as provided in Public Resources Code SS5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the Native American Heritage Commission. Action implementing such an agreement is exempt from:

1. The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5); and
2. The requirement of CEQA and the Coastal Act.

Under CEQA, an EIR is required to evaluate any impacts on unique archaeological resources (California Public Resources Code section 21083.2). A "unique archaeological resource" is defined as:

[A]n archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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

(California Public Resources Code section 21083.2(g)). An impact to a non-unique archaeological resource is not considered a significant environmental impact and such non-unique resources need not be further addressed in the EIR (Public Resources Code section 21083.2(a); CEQA Guidelines section 15064.5(c)(4)).

As stated above, CEQA contains rules for mitigation of "unique archaeological resources." For example, "[i]f it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:

1. Planning construction to avoid archaeological sites.
2. Deeding archaeological sites into permanent conservation easements.
3. Capping or covering archaeological sites with a layer of soil before building on the sites.
4. Planning parks, greenspace, or other open space to incorporate archaeological sites." (Pub. Resources Code section 21083.2(b)(1)-(4).)

Public Resources Code section 21083.2(d) states that "[e]xcavation as mitigation shall be restricted to those parts of the unique archaeological resource that would be damaged or destroyed by the project. Excavation as mitigation shall not be required for a unique archaeological resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, if this determination is documented in the environmental impact report."

The rules for mitigating impacts to archaeological resources to qualify as "historical resources" are slightly different. According to CEQA Guidelines section 15126.4(b), "[p]ublic agencies should, whenever feasible, seek to avoid damaging effects on any historic resource of an archaeological nature. The following factors shall be considered and discussed in an EIR for a project involving such an archaeological site:

A. Preservation in place is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.
B. Preservation in place may be accomplished by, but is not limited to, the following:
    1. Planning construction to avoid archaeological sites;
    2. Incorporation of sites within parks, greenspace, or other open space;
    3. Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site[; and]
    4. Deeding the site into a permanent conservation easement.

Thus, although Section 21083.2 of the Public Resources Code, in addressing "unique archaeological sites," provides for specific mitigation options "in no order of preference," CEQA Guidelines section 15126.4(b), in addressing "historical resources of an archaeological nature," provides that "[p]reservation in place is the preferred manner of mitigating impacts to archaeological sites."

Under CEQA, "[w]hen data recovery through excavation is the only feasible mitigation," the lead agency may cause to be prepared and adopt a "data recovery plan," prior to any excavation being undertaken. The data recovery plan must make "provision for adequately recovering the scientifically consequential information from and about the historic resource." (CEQA Guidelines section 15126.4(b)(3)(C).) The data recovery plan also "must be deposited with the California Historical Resources Regional Information Center." (*Ibid*.) Further, "[i]f an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation." (*Ibid*.)

However, "[d]ata recovery shall not be required for an historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historic resource, provided that determination is documented in the EIR and that the studies are deposited with the California Historical Resources Regional Information Center." (CEQA Guidelines Section 15126.4(b)(3)(D).).

1.2.7 County of Orange General Plan Resources Element

Chapter VI, Resources Element, of the Orange County General Plan contains a Cultural-Historic Resources component that includes the following applicable goals, objectives, and policies relevant to cultural resources (County of Orange 2010).

Goal 1: To raise awareness and appreciation of Orange County's cultural and historic heritage.

Objective 1.1: Facilitate and participate in activities that inform people about the social, cultural, economic, and scientific values of Orange County's heritage.

Objective 1.2: Work through the Orange County Historical Commission in the areas of history, paleontology, archaeology, and historical preservation.

Policy 1.1: To stimulate and encourage financial support for projects in the public and private sector.

Policy 1.2: To coordinate countywide programs and be the liaison for local organizations.

Policy 1.3: To advise and aid the public and private sectors in meeting museum needs and finding funding sources for same.

Policy 1.4: To stimulate and encourage research, writing, and publication of articles on Orange County subjects.

Policy 1.5: To develop and maintain a County archive for historically valuable records.

Policy 1.6: To encourage and facilitate cooperation among local historical societies.

Goal 2: To encourage through a resource management effort the preservation of the county's cultural and historic heritage.

Objective 2.1: Promote the preservation and use of buildings, sites, structures, objects, and districts of importance in Orange County through the administration of planning, environmental, and resource management programs.

Objective 2.2: Take all reasonable and proper steps to achieve the preservation of archaeological and paleontological remains, or their recovery and analysis to preserve cultural, scientific, and educational values.

Objective 2.3: Take all reasonable and proper steps to achieve the preservation and use of significant historic resources including properties of historic, historic architectural, historic archaeological, and/or historic preservation value.

Objective 2.4: Provide assistance to County agencies in evaluating the cultural environmental impact of proposed projects and reviewing Environmental Impact Reports.

Objective 2.5: Provide incentives to encourage greater private sector participation in historic preservation.

Goal 3: To preserve and enhance buildings structures, objects, sites, and districts of cultural and historic significance.

Objective 3.1: Undertake actions to identify, preserve, and develop unique and significant cultural and historic resources.

Objective 3.2: Develop and maintain a County archive for historically valuable records, thereby promoting knowledge and understanding of the origins, programs, and goals of the County of Orange.

Policy 3.1: To pursue grants and innovative funding strategies for acquisition or development of significant properties.

Policy 3.2: To develop, utilize, and promote effective technical conservation and restoration strategies.

Policy 3.3: To appraise, collect, organize, describe, preserve, and make available County of Orange records of permanent, historical value.

Policy 3.4: To serve as a research center for the study of County history.

General Policies:

1. dentification of resources shall be completed at the earliest stage of project planning and review such as general plan amendment or zone change.
2. Evaluation of resources shall be completed at intermediate stages of project planning and review such as site plan review, subdivision map approval, or at an earlier stage of project review.
3. Final preservation actions shall be completed at final stages of project planning and review such as grading, demolition, or at an earlier stage of project review.

Archaeological Resources Policies:

1. To identify archaeological resources through literature and records research and surface surveys.
2. To evaluate archaeological resources through subsurface testing to determine significance and extent.
3. To observe and collect archaeological resources during the grading of a project.
4. To preserve archaeological resources by:
   - Maintaining them in an undisturbed condition, or
   - Excavating and salvaging materials and information in a scientific manner.

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2 Environmental and Cultural Setting

2.1 Environmental Setting

The Project area is located within the coastal plain, less than one mile from the Pacific Ocean. It is in a Mediterranean climate characterized by mild, dry summers and wet winters. Average temperatures near Newport Beach range from approximately 55°F to 68°F, and the area generally receives an average rainfall of less than 11 inches per year (WRCC 2019).

The topography within the Project area is relatively flat and varies from approximately 5 feet above mean sea level in the southern portion, to approximately 16 feet above mean sea level in the northern portion. The eastern portion of the Project area is bordered by a mesa that is approximately 50 to 80 feet above mean sea level, and the western portion of the Project area is bordered by the concrete-lined Santa Ana River and Banning Channel. The Project area was historically part of the Santa Ana River floodplain prior to channelization of the Santa Ana River and is currently indirectly connected to the Santa Ana River through groundwater sources.

The Project area is adjacent to residential development to the east and north, the Banning Ranch property to the south, and the Santa Ana River and Banning Channel to the immediate west followed by additional residential development further to the west. The Project area is bisected by Victoria Street, which divides the Project area into North Talbert and South Talbert.

2.2 Cultural Setting

Evidence for continuous human occupation in the region 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. This research 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).

2.2.1 Paleoindian (pre-5500 BC)

Evidence for Paleoindian occupation in the region is tenuous; the knowledge of associated cultural pattern(s) is informed by a relatively sparse body of data that has been collected from within an area extending from coastal San Diego through the Mojave Desert and beyond. One of the earliest dated archaeological assemblages in this area (excluding the Channel Islands) derives from SDI-4669/W-12, in La Jolla, San Diego County. A human burial from SDI-4669 was radiocarbon dated to 9,590–9,920 years before present (95.4 percent probability) (Hector 2006). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of groundstone, battered cobbles, and expedient flake tools). In contrast, typical Paleoindian assemblages include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of groundstone tools. Prime examples of this pattern are sites that were studied by Emma Lou Davis (1978) on China Lake Naval Air Weapons Station near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers

of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (MNO-679), a multicomponent fluted point site, and MNO-680, a single component Great Basined stemmed point site (Basgall et al. 2002). At MNO-679 and MNO-680, groundstone tools were rare, while finely made projectile points were common.

Warren et al. (2004) claimed that a biface manufacturing tradition present at the Harris site complex (SDI-149) is representative of typical Paleoindian occupation in the Southern California region that possibly dates between 10,365 and 8200 BC (Warren et al. 2004, p. 26). Termed San Dieguito (Rogers 1945), assemblages at the Harris site, located in the area now occupied by City of Escondido, are qualitatively distinct from most others in the region because the site has large numbers of finely made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (Warren 1964, 1968). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a broader economic pattern. Gallegos' interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, are very different than nearly all other assemblages throughout the region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, its rarity implies that it was not only short-lived, but that it was not as economically successful as the Archaic strategy. Such a conclusion would fit with the general trends in Southern California deserts, wherein hunting-related tools are replaced by processing tools during the early Holocene (Basgall and Hall 1990).

2.2.2 Archaic (8000 BC–AD 500)

The more than 1500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in the region. If San Dieguito is the only recognized Paleoindian component in the region, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the region (Hale 2001, 2009).

The Archaic pattern is relatively easy to define with assemblages that consist primarily of processing tools: millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the region, with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurs until the bow and arrow is adopted at around AD 500,

as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then, assemblage formality remains low. After the bow is adopted, small arrow points appear in large quantities, and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decrease in proportion relative to expedient, unshaped groundstone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complimented only by the addition of the bow and ceramics.

2.2.3 Late Prehistoric (AD 500–1750)

The period following the Archaic and prior to Ethnohistoric times (AD 1750) is commonly referred to as the Late Prehistoric (Rogers 1945; Wallace 1955; Warren et al. 2004). However, several other subdivisions continue to be used to describe various shifts in assemblage composition, including the addition of ceramics and cremation practices. The post-AD 1450 period is called the San Luis Rey complex (Meighan and True 1977). Rogers (1929) also subdivided the last 1,000 years into the Yuman II and III cultures, based on the distribution of ceramics. Despite these regional complexes, each is defined by the addition of arrow points and ceramics and the widespread use of bedrock mortars. Vagaries in the appearance of the bow and arrow and ceramics make the temporal resolution of the San Luis Rey complex difficult. For this reason, the term Late Prehistoric is well suited to describe the last 1,500 years of prehistory in the region.

Temporal trends in socioeconomic adaptations during the Late Prehistoric period are poorly understood. This is partly due to the fact that the fundamental Late Prehistoric assemblage is very similar to the Archaic pattern but includes arrow points and large quantities of fine debitage from producing arrow points, ceramics, and cremations. While steatite was commonly the material of choice for vessel production, it was generally replaced near the time of missionization by locally procured clay to produce ceramic vessels. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock. Some argue that the Ethnohistoric intensive acorn economy extends as far back as AD 500 (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred prior to AD 1400. True (1980) argued that acorn processing and ceramic use in the region did not occur until the San Luis Rey pattern emerged after approximately AD 1450.

2.2.4 Ethnohistoric (post-AD 1750)

The Native American inhabitants affiliated with the Project area would have generally spoken Luiseño-Juaneño (Acjachemen) and the Gabrielino (Kizh) varieties of Takic, which may be assigned to the larger Uto-Aztecan family (Golla 2007, p. 74). Golla has interpreted the amount of internal diversity within these language-speaking communities to reflect a time depth of approximately 2,000 years. Other researchers have contended that Takic may have diverged from Uto-Aztecan ca. 2600 BC–AD 1, which was later followed by the diversification within the Takic-speaking tribes, occurring approximately 1500 BC–AD 1000 (Laylander 2000). The Luiseño-Juaneño and Gabrielino represent the descendants of local Late Prehistoric populations. They are generally considered to have migrated into the area from the Mojave Desert, possibly displacing the prehistoric ancestors of the Yuman-speaking Kumeyaay (Ipai-Tipai) that lived to the south during Ethnohistoric times. The Luiseño-Juaneño shared boundaries with the Gabrielino and Serrano to the west and northwest, the Cahuilla to the east, the Cupeño to the southeast, and the Kumeyaay to the south (Bean and Shipek 1978; Kroeber 1925). Southern Native American tribal groups of the San Diego and southern Imperial region have traditionally spoken Yuman languages, a subgroup of the Hokan Phylum.

The Gabrielino territory included the Los Angeles Basin, the coast of Aliso Creek in Orange County to the south, and Topanga Canyon in the north; the four southern Channel Islands; and watersheds of the Los Angeles, San Gabriel, and Santa Ana Rivers. At the time of European contact, the Gabrielino were actively involved in trade using shell and beads as currency. The Gabrielino produced pipes, ornaments, cooking implements, inlay work, and basketry. Dwellings were constructed of tule mats on a framework of poles, but size and shape have not been recorded (Kroeber 1925). Basketry and steatite vessels were used rather than ceramics until near the end of the mission period in the nineteenth century (Garcia et al. 2011).

The Juaneño (Acjachemen) territory was bounded to the north by Aliso Creek, the east by the crest of the Santa Ana Mountains, the south by San Onofre Creek, and west by the Pacific Ocean (Kroeber 1925:, p. 636). Ethnographic, linguistic, and archaeological evidence indicate that Juaneño and Luiseño are one cultural/tribal group. There is no existing record of the Juaneño population during the pre-contact period. Records indicated that approximately 1,300 individuals culturally affiliated with the Juaneño resided at Mission San Juan Capistrano in the year 1800 (Engelhardt 1922). The mission death register shows as many as 4,000 native burials in the mission cemetery (White 1963). It is clear from that the arrival of the Spanish decimated Native peoples through disease and changed living conditions (Bean and Shipek 1978).

The tribes of the region were organized into patrilineal clans or bands centered on a chief, composed of 25 to 30 people (Kroeber 1925), each of which had their own territorial land or range where food and other resources were collected at different locations throughout the year (Sparkman 1908). The title of chief was heritable along family lines. Inter-band conflict was most common over trespassing. Sparkman observed that “when questioned as to when or how the land was divided and subdivided, the Indians say they cannot tell, that their fathers told them that it had always been thus” (1908). Place names were assigned to each territory, often reflecting common animals, plants, physical landmarks, or cosmological elements that were understood as being related to that location. Lukup, recorded immediately outside, to the east of the Project area, is one such place named village. Marriages were generally arranged by parents or guardians. Free and widowed women had the option to choose their partner. Polygamy occurred though was not common, often with a single man marrying a number of sisters and wives. Shamanism was a major component in tribal life. The physical body and its components was thought to be related to the power of an individual, and wastes such as fluids, hair, and nails were discarded with intent. Hair, once cut, was often carefully collected and buried to avoid being affected negatively or controlled by someone who wished them harm. Some locations and natural resources were of cultural significance. Springs and other water-related features were thought to be related with spirits. These resources, often a component of origin stories, had power that came with a variety of risks and properties to those who became affected. Puberty ceremonies for both boys and girls were complex and rigorous. Mourning ceremonies were similar throughout the region, generally involving cutting of the hair, burning the deceased’s clothes a year after death, and redistributing personal items to individuals outside of the immediate tribal group (Sparkman 1908; Kroeber 1925). The center of the Gabrielino religion was *Chinigchinich*, the last of a series of heroic mythological figures. The heroes were originally from the stars and the sagas told of them formed the religious beliefs. The most obvious expression of the religion was the *Wankech*, a brush-enclosed area where religious observances were performed. The *Wankech* contained an inner enclosure housing a representation of *Chinigchinich*, a coyote skin stuffed with feathers, claws, beaks, and arrows. Interestingly, early American ethnographers recorded a Gabrielino man named Salvador Cuevas who sang a song called “Song of To-mami-yo-wit” that was given by Chung-itch-nish at the location of the village of Lukup, just outside the Project area (Gray and Schupman Jr. 1909, pg. 209).

Acorns were the staple food of the Native American inhabitants of this region during the Ethnohistoric period (Sparkman 1908). Of the six or more oak species within this traditional territory, the most desirable of these was

the black oak (*Quercus kelloggii*), due to its ease of processing, protein content, and digestibility. Acorns were stored in granaries to be removed and used as needed. The acorns were generally processed into flour using a mortar and pestle. Other edible and medicinal plants of common use included wild plums, choke cherries, Christmas berry, gooseberry, elderberry (*Sambucus nigra*), willow (*Salix*), Juncus grass, buckwheat (*Eriogonum fasciculatum*), lemonade berry (*Rhus integrifolia*), sugar bush (*Rhus ovata*), sage scrub (*Artemisia californica*), currents, wild grapes, prickly pear (*Opuntia*), watercress, wild oats, and other plants. More arid plants such as Yucca, Agave, mesquite, chia, bird-claw fern, Datura, yerba santa (*Eriodictyon*), Ephedra, and cholla were also of common use by some Juaneño and Gabrielino populations. A number of mammals were commonly eaten. Game animals included black-tailed deer, antelope, rabbits, hares (*Leporidae*), birds, ground squirrels, woodrats (*Neotoma*), bears, mountain lions (*Puma concolor*), bobcats (*Lynx rufus)*, coyotes (*Canus latrans*), and others. In lesser numbers, reptiles and amphibians may have been consumed. Fish and marine resources provided some portion of many tribal communities' food sources, though most notably those nearest the coast. Shellfish would have been procured and transported inland from three primary environments, including the sandy open coast, bay and lagoon, and rocky open coast.

2.2.5 Historic Period (Post 1542)

European activity in the region began as early as AD 1542, when Juan Rodríguez Cabrillo landed in San Diego Bay. Sebastián Vizcaíno returned in 1602, and it is possible that there were subsequent contacts that went unrecorded. These brief encounters made the local native people aware of the existence of other cultures that were technologically more complex than their own. Epidemic diseases may also have been introduced into the region at an early date, either by direct contacts with the infrequent European visitors or through waves of diffusion emanating from native peoples farther to the east or south. Father Juan Crespí, a member of the 1769 Spanish Portolá expedition, authored the first written account of interaction between Europeans and the indigenous population in the region that makes up Orange County today. It is possible, but as yet unproven, that the precipitous demographic decline of native peoples had already begun prior to the arrival of Gaspar de Portolá and Junípero Serra in 1769.

Spanish colonial settlement was initiated in 1769, when multiple expeditions arrived in San Diego by land and sea, and then continued northward through the coastal plain toward Monterey. A military presidio and a mission were soon firmly established at San Diego, despite violent resistance to them from a coalition of native communities in 1776. Mission San Juan Capistrano was established this same year, on November 1. Private ranchos subsequently established by Spanish and Mexican soldiers, as well as other non-natives, appropriated much of the remaining coastal or near-coastal locations (Pourade 1960–1967).

Locally, and less than 0.5 mile north of the Project area, the Diego Sepulveda Adobe was built sometime between 1817 and 1820 as a way station affiliated with Mission San Juan Capistrano as housing for local herdsman, and as headquarters for Diego Sepulveda (Earle 2007). The adobe became an estancia by 1820 to facilitate conversion of local Native Americans to the Christian Faith. This is not surprising given the adobe's immediate proximity to the Gabrielino village of Lukup just to the south.

Mexico's separation from the Spanish empire in 1821 and the secularization of the California missions in the 1830s caused further disruptions to native populations. Some former mission neophytes were absorbed into the work forces on the ranchos, while others drifted toward the urban centers at San Diego and Los Angeles or moved to the eastern portions of the county where they were able to join still largely autonomous native communities. United States conquest and annexation, marked by the Mexican-American war and California Sur's ceding to the

United States in 1851, together with the gold rush in Northern California, brought many additional outsiders into the region. Development during the following decades was fitful, undergoing cycles of boom and bust. With rising populations in the nineteenth century throughout the Southern California region, there were increased demands for important commodities such as salt.

3 Methods and Results

3.1 Records Search

On October 22, 2019, Dudek archaeologist Kira Archipov conducted a records search of the California Historical Resources Information System (CHRIS) at the South Central Coastal Information Center (SCCIC), located on the campus of the California State University, Fullerton. An update to the original records search was conducted by Dudek archaeologist Brenda Rogers on October 14, 2025. The records search encompassed the entire Project area and 0.5-mile search radius. The purpose of the records search is to identify any previously recorded cultural resources that may be located in or adjacent to the Project area and to identify previous studies in the Project vicinity. In addition to a review of previously prepared site records and reports, the records search also included a review of historical maps of the Project area, ethnographies, the NRHP, the CRHR, the California Historic Property Data File, and the lists of California State Historical Landmarks, California Points of Historical Interest, and Archaeological Determinations of Eligibility.

3.1.1 Previous Cultural Resources Studies

The SCCIC records search indicates that 56 previous cultural resource studies have been conducted within the 0.5-mile search radius of the Project area. Of these, five (5) overlap with the Project area (Table 1). These include three (3) archaeological resources inventories, one (1) archival information review, and one (1) cultural resources inventory and evaluation. Reports relevant to the Project area are discussed in further detail below Table 1. Approximately 30 percent of the Project area has been subject to past cultural resources investigations. See Appendix A for the complete SCCIC records search results and associated documentation.

Table 1. Previous Cultural Resources Studies Overlapping the Project Area

Report Number	Year	Author	Title
Overlapping Project Area			
OR-00270	1975	Leonard, Nelson N. III and Mathew C. Hall	Description and Evaluation of Cultural Resources within the US Army Corps of Engineers' Santa Ana River Project
OR-00299	1978	Van Horn, David M.	A Compilation of Archaeological, Historical and Paleontological Data for the City of Costa Mesa
OR-00801	1985	Langenwalter, Paul E. and James Brock	Phase II Archaeological Studies Prado Basin and the Lower Santa Ana River
OR-03497	2007	McKenna, Jeanette A.	A Section 106 Evaluation of the Proposed Fairview Park Bike Trail, Approximately 0.75 Linear Miles within the Existing Park in Costa Mesa, Orange County, California
OR-04593	2017	Wilson, Zach	Archaeological Survey Report for Southern California Edison's (SCE) Deteriorated Pole Project on the Huntington Beach-Lafayette 66 kV Sub-Transmission Line (TD1260603), Orange County, California

LA-00801

Phase II Archaeological Studies Prado Basin and the Lower Santa Ana River (Langenwalter and Brock 1985) documents the inventory and evaluation of numerous cultural resources within the Prado Basin and Lower Santa Ana River, encompassing portions of Orange, Riverside, and San Bernardino Counties. The study included a records search, archival research, pedestrian survey, an inventory of 23 prehistoric resources and 164 historic-era resources, test excavations, and significance evaluations for 23 prehistoric and 27 historic-era resources. Of these, 27 cultural resources were recommended eligible for inclusion in the NRHP. Overall, the study overlaps with approximately 20 percent of the Project area. No cultural resources identified in this study overlap with the currently proposed Project area.

3.1.2 Previously Recorded Cultural Resources

The SCCIC records search identified 10 previously recorded cultural resources within a 0.5-mile radius of the Project area, none of which are located within the Project area. These include six (6) prehistoric archaeological resources, two (2) historic-era built environment resources, one (1) historic-era archaeological resource, and one (1) multicomponent archaeological resource. See Appendix A for the complete SCCIC records search results and associated documentation, and below Table 2 for a summary of the significant archaeological resources located within the Project vicinity.

Table 2. Previously Recorded Cultural Resources within One Mile of Project Area

Primary Number	Trinomial	Age	Resource Description	Eligibility for CRHR/NRHP
Outside Project Area				
P-30-000058	CA-ORA-58	Prehistoric	Complex habitation site with numerous burials	Eligible for the CRHR; Listed on the NRHP
P-30-000165	CA-ORA-165	Prehistoric	Contact period artifact scatter	Eligible for the CRHR and NRHP
P-30-000506	CA-ORA-506	Multicomponent	Prehistoric shell midden and historic-era trash deposit	Recommended eligible for the CRHR and NRHP
P-30-000839	—	Prehistoric	Prehistoric midden with associated artifacts	Recommended eligible for the CRHR and NRHP
P-30-000845	CA-ORA-845	Prehistoric	Prehistoric shell midden	Unknown
P-30-000906	—	Prehistoric	Prehistoric shell midden	Unknown
P-30-001667	—	Prehistoric	Redeposited prehistoric shell midden	Unevaluated
P-30-001740	CA-ORA-1740H	Historic-era	Two historic-era trash scatters	Unknown
P-30-177464	—	Historic-era	Transmission Tower	Recommended ineligible for the NRHP
P-30-177612	—	Historic-era	Transmission Tower	Recommended in ineligible for the NRHP

A number of significant archaeological resources lie adjacent to the Project area. P-30-000165 (CA-ORA-165) is the recorded location of the ethnohistoric Gabrielino village of *Lukup*. This site is mentioned frequently in anthropological literature and has direct ethnohistoric links. The "Federal Cylinder Project" includes voice recordings of a Native American man named Salvador Cuevas who sang a song that originated from this village. The Federal Cylinder Project records the following information from Salvador Cuevas: "Song of To-mami-yo-wit. No one composed it, but it was given by Chung-itch-nish himself. This is in the old dead language of the coast. Loo-coop was large rancheria S. of Santa Anna near the ocean. This came from there" (Gray and Schupman Jr. 1990, pg. 209).

The concept of a village being a precise location of settlement is not accurate for all place named areas (Kroeber 1925). Hunter-gatherer settlement may have focused on specific landforms that convey a singular place, while at other times settlement occurred over a broader area that shared a single name. The village of *Lukup* likely referred to a broader area covering the bluffs and banks of the Santa Ana River and included the prehistoric and multicomponent resources identified in the SCCIC records search results. Archaeologically, deciphering the sites that can be associated with the ethnohistoric village requires definition of temporally consistent archaeological deposits that date to the pre- and post-Mission historic period (i.e., post AD 1769). For the purposes of this report, a conservative approach tentatively links all the identified prehistoric resources into the broader village concept associated with the place name *Lukup*.

Archaeological research at the sites identified in the SCCIC records search has focused primarily on P-30-000058 (CA-ORA-58), the Banning/Norris Site (Fairview Site), located on the bluff just outside the eastern boundary of the Project area and within Fairview Park (Koerper and Desautels 1996). First recorded in 1949, the site has undergone many excavation efforts and is considered one of the most important such sites in Southern California, having numerous burials and many unique and/or diagnostic artifacts (Eberhart and Eberhart 1949). The site contains evidence of long-distance trade with Classic period Hohokam of the Sonoran Desert and was likely an important political and trade center during the Late Prehistoric period. The prehistoric resources identified in the SCCIC records search are located primarily on top of bluffs located east of the current Project area. However, the distribution of sites is more likely related to the focus of archaeological research in those areas. No focused, subsurface archaeological exploration has occurred in the low-lying floodplain of the Santa Ana River to the west and inside of the Project area.

3.2 Review of Historic Aerials and Topographic Maps

Dudek consulted historic topographic maps and aerial photographs to understand development of the Project area and surrounding properties. Historic topographic maps are available for the years 1896, 1899, 1901, 1907, 1915, 1925, 1932, 1935, 1943, 1945, 1951, 1958, 1968, 1975, 1977, 1981, 1982, 2012, 2015, and 2018. Historic aerials are available for the years 1938, 1953, 1963, 1972, 1994, 2002, 2003, 2004, 2009, 2010, 2012, 2014, and 2016 (NETR 2025).

The first USGS topographic map showing the Project area dates to 1896, and depicts the braided, natural channel of the Santa Ana River and the unimproved, natural landforms surrounding the mouth of the river. The Project area is undeveloped at that time, though a few structures and roads are visible to the northeast. No changes are apparent on the topographic maps until the year 1932, when the Santa Ana River appears as the channelized alignment it is today. In addition, a few additional roads are visible around the Project area. By 1951, a small two-track road is visible extending along the western boundary of the Project area. The 1958 map shows additional

development. By 1968, the area surrounding Talbert Regional Park is largely developed and subdivided. No other major changes are visible on the maps up to the current day (NETR 2025).

The first historic aerial showing the Project area dates to 1938 and shows that at this time the Project area was entirely undeveloped and braided with remnant channels of the Santa Ana River. By 1953, the landform appears to have undergone some sort of alteration as three distinct vegetation zones are visible. The 1963 aerial depicts increased development surrounding Talbert Regional Park. The 1972 aerial shows the former agricultural land west of the Santa Ana River as largely developed, as residential neighborhoods are now observed. By 1994, the area looks much as it appears today. Within the reserve, it appears that minor surface grading occurred after the year 2000, likely for habitat restoration (NETR 2025).

3.3 Review of Geomorphological Context

According to U.S. Department of Agriculture Natural Resources Conservation Services, there are five soil types mapped within the Project area: Bolsa silt loam; Hueneme fine sandy loam; Hueneme fine sandy loam, drained; Myford sandy loam, 9 to 30 percent slopes, eroded; and Metz loamy sand, moderately fine substratum (USDA 2019).

Bolsa silt loam is a poorly drained soil that is derived from mixed alluvium and contains silt loam and silty clay loam. Hueneme fine sandy loam is comprised of fine sandy loam and stratified sand to silt loam. Myford sandy loam, 9 to 30 percent slopes, eroded, is similar to the previous description but often very shallow because of erosion. Metz loamy sand is deep, excessively drained soil formed in alluvial material from mixed, but dominantly sedimentary rocks (USDA 2019).

3.4 Sensitivity Analysis

Examination of the historic topographic maps, aerial photographs, and geomorphological context indicates that the Project area remains largely undeveloped, undisturbed, and underlain by native alluvial soils. The channelization of the Santa Ana River and development of the Banning Channel impacted the western margin of the Project area. Minor agricultural activity and habitat restoration after channelization likely only affected the top 1 to 2 feet of sediments. This suggests that the Project area retains subsurface integrity. Additionally, the USDA's soil types mapped within the Project area demonstrate that alluvial soils are present, which generally have moderate potential to contain subsurface archaeological deposits.

Extensive archaeological deposits, most of which are likely related to the ethnohistoric village of *Lukup*, border the eastern margin of the Project area, lining the bluffs. These deposits have archaeological and tribal significance. The density of aboriginal occupation on the bluffs is a strong predictor of adjacent buried archaeological deposits in the Santa Ana flood plain east of the river channel. Floodplains next to major waterways, including marshes, in Southern California have been frequently demonstrated to contain significant, buried archaeological deposits, such as those found at Bolsa Chica (see Couch et al. 2009). For these reasons, the Project area is characterized as moderately sensitive for archaeological resources.

3.5 Native American Heritage Commission Sacred Lands File Search

Dudek requested an NAHC search of the SLF for the Project area and a 0.5-mile radius on October 9, 2019, and on October 9, 2025. The SLF consists of a database of known Native American resources. These resources may not be included in the SCCIC database. The NAHC replied via email on October 23, 2019, and October 15, 2025, respectively, stating that the SLF search was completed with positive results. Positive results indicate the presence of Native American cultural resources within 0.5 miles of the Project area, and not necessarily directly within the Project area. The NAHC did not provide details on what the resource(s) are or where they are located. Additionally, the NAHC provided a list of Native American tribes and individuals/organizations with traditional geographic associations that might have knowledge of cultural resources in the area. To date, Dudek has not sent outreach letters to the any of the tribes listed by the NAHC. See Appendix B for complete documentation of SLF search results and tribal correspondence.

In compliance with AB 52, OCPW, as lead agency, is responsible for conducting AB 52 government-to-government consultation with tribal entities.

3.6 Pedestrian Survey

Dudek Archaeologists Loukas Barton, Patrick Hadel, and Ted Roberts conducted an intensive-level archaeological resources pedestrian survey of the Project area on November 22, 2019. To assess current site conditions, Dudek archaeologist Roshanne Bakhtiary conducted an updated reconnaissance-level archaeological resources pedestrian survey of the Project area on October 29, 2025. Standard archaeological procedures and techniques consistent with the Secretary of the Interior's Standards and Guidelines for a cultural resources inventory were employed during the survey. When possible, 10-meter interval survey transects were conducted and oriented in cardinal direction. Where visible, the ground surface was examined for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock, imported marine shell), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of the current or former presence of structures or buildings (e.g., standing exterior walls, post holes, foundations), and historic-era artifacts (e.g., metal, glass, ceramics, building materials). Ground disturbances such as rodent/reptile burrows and backdirt piles, cut banks, and drainages were also visually inspected for exposed subsurface materials. During the reconnaissance-level pedestrian survey, exposed ground surfaces, cut banks and drainages, rodent/reptile burrows and backdirt piles, and other areas of increased ground visibility were opportunistically inspected for observable cultural materials or features.

The majority of the 182-acre Project area is characterized by dense vegetation interspersed with informal dirt roadways, pedestrian trails, and narrow bike tracks. South Talbert consists primarily of coastal salt-marsh habitat and includes plant species such as Pacific glasswort (*Salicornia pacifica*) and saltgrass (*Distichlis spicata*). In contrast, North Talbert supports plant species such as California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), mallow (*Malva* spp.), and coastal goldenbush (*Isocoma menziesii*), and also contains sycamore groves and landscaped lawns.

Ground surface visibility was non-existent (0 percent) within areas of dense vegetation, which accounted for approximately 85 percent of the Project area (Exhibit 1). Within dirt roadways, pedestrian trails, and narrow bike tracks, ground visibility was excellent (80 to 100 percent); this accounted for the remainder of the Project area

(Exhibit 2). Disturbances observed during the survey include weather-related erosion in several areas, trail cutting and maintenance, evidence of vehicle overland travel, and bike use. No cultural resources were identified within the Project area during the 2019 and 2025 pedestrian surveys.

Exhibit 1. Example of non-existent ground surface visibility, view facing west.

Exhibit 2. Example of excellent ground surface visibility, view facing north.

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4 Summary and Management Recommendations

Dudek's cultural resources inventory in support of the Project suggests that there is a moderate potential for the inadvertent discovery of archaeological resources during Project implementation. Dudek conducted a records search of the Project area and surround 0.5-mile radius. The records search identified six (6) previously recorded prehistoric archaeological resources, two (2) historic-era built environment resources, one (1) historic-era archaeological resource, and one (1) multicomponent archaeological resource within 0.5 mile of the Project area, one of which is adjacent to, but outside the Project area (P-30-000165 or *Lukup*). The ethnohistoric Gabrielino village site of *Lukup*, recognized as archaeologically and tribally significant, likely corresponds to the broader Santa Ana River area encompassing the six (6) prehistoric archaeological resources and the one (1) multicomponent archaeological resource documented in the SCCIC records search.

A NAHC SLF search was also requested for the Project, and results were positive for Native American cultural resources within 0.5-miles mile of the Project area. Additionally, a review of historical aerial photographs and topographic maps indicates that the Project area has remained largely undeveloped and undisturbed, aside from limited disturbances associated with the channelization of the Santa Ana River and Banning Channel.

Dudek archaeologists conducted an intensive-level cultural resources pedestrian survey of the Project area on November 22, 2019, and an updated reconnaissance-level pedestrian survey of the Project area on October 29, 2025. Though no cultural resources were identified during either survey, dense vegetation obscured roughly 85 percent of the ground surface, significantly limiting surface visibility.

Based on the presence of significant archaeological resources adjacent to the Project area, and in consideration of the broader pattern of prehistoric use along the coast and near the Santa Ana River, there is a moderate potential for the inadvertent discovery of archaeological resources during Project implementation. Management recommendations to reduce potential impacts to unanticipated archaeological resources and human remains during construction activities are provided below.

Worker Environmental Awareness Program. Prior to commencement of construction activities for all phases of Project implementation, The Orange County Department of Public Works Development Services (OCPW) shall retain a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for Archaeology, to prepare a Worker Environmental Awareness Program (WEAP). The WEAP shall be submitted to the OCPW for review and approval. All construction personnel and monitors shall be presented the WEAP training prior to the start of construction activities. The WEAP shall be prepared to inform all personnel working on the proposed Project about the archaeological sensitivity of the area, to provide specific details on the kinds of archaeological materials that may be identified during construction, to explain the importance of and legal basis for the protection of significant archaeological resources, and to outline the actions to be taken in the event of a discovery of cultural resources. The WEAP shall define "tribal cultural resources" and include appropriate management requirements relating to inadvertent discovery of a potential tribal cultural resource. Each worker shall also learn the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the site supervisor and archaeological monitor.

Cultural Resources Monitoring and Inadvertent Discovery Protocols. A monitoring plan should be prepared by an archaeological principal investigator, meeting the Secretary of the Interior's Standards, and implemented upon approval by OCPW. It is also recommended that an archaeological monitor be present during all initial ground-disturbing activities for the Project. Archaeological monitoring may be adjusted (increase, decreased, or discontinued) at the recommendation of the archaeological principal investigator and based on inspection of exposed cultural material and the observed potential for soils to contain intact cultural deposits or otherwise significant archaeological material. The archaeological monitor shall be provided a copy of this technical report and its pertinent appendices to inform their monitoring efforts. The archaeological monitor shall have the authority to temporarily halt work to inspect areas for potential cultural material or deposits.

In the event that unanticipated archaeological deposits or features are exposed during construction activities, all construction work occurring within 50 feet of the find shall immediately stop until the archaeological principal investigator is provided access to the Project area and can assess the significance of the find and determine whether or not additional study is warranted. The work exclusion buffer may be adjusted as appropriate to allow work to feasibly continue at the recommendation of the archaeological principal investigator. Should it be required, temporary flagging shall be installed around this resource in order to avoid any disturbances from construction equipment. The potential for avoidance should be the primary consideration of this initial process. Significance of the find shall be assessed as outlined by CEQA (14 CCR 15064.5[f]; PRC Section 21082). If the archaeological principal investigator observes the discovery to be potentially significant under CEQA, additional efforts, such as the preparation of an archaeological treatment plan, testing, and/or data recovery, may be warranted prior to allowing construction to proceed in this area.

Daily monitoring logs shall be completed by the on-site archaeological monitor. Within 60 days following completion of construction, the archaeological principal investigator shall provide an archaeological monitoring report to OCPW. This report shall include the results of the cultural monitoring program (even if negative), including a summary of any findings or evaluation/data recovery efforts, and supporting documentation that demonstrates all mitigation measures defined in the environmental document were appropriately met. Appendices shall include archaeological monitoring logs and documentation relating to any newly identified or updated cultural resources. This report shall be submitted to the SCCIC once considered final.

While recommended, the requirement to include a Native American Monitor should be determined by OCPW, having reviewed cultural resources technical findings, through government-to-government consultation with the traditionally culturally affiliated tribes with geographic ties to the Project area and in review of the present report findings. If appropriate, Tribal Cultural Resources, as a separate resource category under CEQA, should be subject to separate management strategies, while taking into account and working in tandem with the present cultural resources mitigation.

Human Remains. In the event that human remains are encountered on the project site, work within 50 feet of the discovery shall be redirected and the County of Orange (County) Coroner notified immediately consistent with the requirements of California Code of Regulations (CCR) Section 15064.5(e). State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code (PRC) Section 5097.98. If the remains County Coroner shall notify the Native American Heritage Commission (NAHC), which shall determine and notify a Most Likely Descendant (MLD). With the permission of the property owner, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and non-destructive analysis of human remains and items associated with Native American burials. Consistent with

CCR Section 15064.5(d), if the remains are determined to be Native American and an MLD is notified, the OCPW shall consult with the MLD as identified by the NAHC to develop an agreement for treatment and disposition of the remains. Prior to the issuance of grading permits, OCPW, or designee, shall verify that all grading plans specify the requirements of CCR Section 15064.5(e), State Health and Safety Code Section 7050.5, and PRC Section 5097.98, as stated above.

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Confidential Appendix A

SCCIC Records Search Results

Appendix B
NAHC SLF Search Results

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691 Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov

October 23, 2019

Ted Roberts
Dudek

VIA Email to: troberts@dudek.com

RE: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Talbert Regional Park Master Plan Project, Orange County

Dear Mr. Roberts:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

> Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

   - A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;

   - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;

   - Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and

   - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

   - Any report that may contain site forms, site significance, and suggested mitigation measures.

     All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the NAHC was positive. Please contact the Juaneno Band of Mission Indians, the Juaneno Band of Mission Indians Acjachemen Nation, the Gabrieleno Band of Mission Indians – Kizh Nation, and the Gabrieleno/Tongva San Gabriel Band of Mission Indians on the attached list for more information.
4. Any ethnographic studies conducted for any area including all or part of the APE; and
5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: steven.quinn@nahc.ca.gov.

Sincerely,

Steven Quinn
Associate Governmental Program Analyst

Attachment

Native American Heritage Commission
Tribal Consultation List
Orange County
10/23/2019

Agua Caliente Band of Cahuilla Indians
Jeff Grubbe, Chairperson
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393 — Gabrieleno
Covina, CA, 91723
Phone: (626) 926 - 4131
admin@gabrielenoindians.org

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693 — Gabrieleno
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626) 286-1262
GTTribalcouncil@aol.com

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231 — Gabrielino
Los Angeles, CA, 90012
Phone: (951) 807 - 0479
sgoad@gabrielino-tongva.com

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Chairperson
P.O. Box 490 — Gabrielino
Bellflower, CA, 90707
Phone: (562) 761 - 6417
Fax: (562) 761-6417
gtongva@gmail.com

Gabrielino-Tongva Tribe
Charles Alvarez,
23454 Vanowen Street — Gabrielino
West Hills, CA, 91307
Phone: (310) 403 - 6048
roadkingcharles@aol.com

Juaneno Band of Mission Indians
Sonia Johnston, Chairperson
P.O. Box 25628 — Juaneno
Santa Ana, CA, 92799
sonia.johnston@sbcglobal.net

Juaneno Band of Mission Indians Acjachemen Nation - Belardes
Matias Belardes, Chairperson
32161 Avenida Los Amigos — Juaneno
San Juan Capisttrano, CA, 92675
Phone: (949) 293 - 8522
kaamalam@gmail.com

Juaneno Band of Mission Indians Acjachemen Nation - Romero
Teresa Romero, Chairperson
31411-A La Matanza Street — Juaneno
San Juan Capistrano, CA, 92675
Phone: (949) 488 - 3484
Fax: (949) 488-3294
tromero@juaneno.com

La Jolla Band of Luiseno Indians
Fred Nelson, Chairperson
22000 Highway 76 — Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 3771

Pala Band of Mission Indians
Shasta Gaughen, Tribal Historic Preservation Officer
PMB 50, 35008 Pala Temecula Rd. — Cupeno, Luiseno
Pala, CA, 92059
Phone: (760) 891 - 3515
Fax: (760) 742-3189
sgaughen@palatribe.com

Pauma Band of Luiseno Indians
Temet Aguilar, Chairperson
P.O. Box 369 — Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 1289
Fax: (760) 742-3422
bennaecalac@aol.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Talbert Regional Park Master Plan Project, Orange County.

Pechanga Band of Luiseno Indians
Mark Macarro, Chairperson
P.O. Box 1477 Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6000
Fax: (951) 695-1778
epreston@pechanga-nsn.gov

Rincon Band of Luiseno Indians
Jim McPherson, Tribal Historic Preservation Officer
One Government Center Lane Luiseno
Valley Center, CA, 92082
Phone: (760) 749 - 1051
Fax: (760) 749-5144
vwhipple@rincontribe.org

Rincon Band of Luiseno Indians
Bo Mazzetti, Chairperson
One Government Center Lane Luiseno
Valley Center, CA, 92082
Phone: (760) 749 - 1051
Fax: (760) 749-5144
bomazzetti@aol.com

San Luis Rey Band of Mission Indians
San Luis Rey, Tribal Council
1889 Sunset Drive Luiseno
Vista, CA, 92081
Phone: (760) 724 - 8505
Fax: (760) 724-2172
cjmojado@slrmissionindians.org

Soboba Band of Luiseno Indians
Scott Cozart, Chairperson
P. O. Box 487 Cahuilla
San Jacinto, CA, 92583 Luiseno
Phone: (951) 654 - 2765
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Talbert Regional Park Master Plan Project, Orange County.

Roshanne Bakhtiary

From: Roshanne Bakhtiary
Sent: Thursday, October 9, 2025 9:17 AM
To: NAHC@NAHC
Subject: DUDEK PN 13230.70 NAHC SLF Search Request
Attachments: DUDEK_13230.70_NAHC_SLF_Request.pdf

Dear NAHC,

Please find attached to this email the NAHC Sacred Lands File search request with project location map for DUDEK PN 13230.70, located in the City of Costa Mesa, Orange County, California. Dudek is requesting an NAHC Sacred Lands File Search for any sacred sites, tribal cultural resources, and other places of Native American community value that may fall within a half-mile radius of the proposed project location.

Please let me know if you have any questions regarding this project. You can email the results to me at: rbakhtiary@dudek.com.

Thanks in advance,

Roshanne Bakhtiary
Archaeologist
DUDEK 45 Years of Impactful Projects

O: 949 373 8307 **C:** 760 557 0998
dudek.com

Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: Talbert Regional Park Master Plan Update Project PN 13230.70

County: Orange

USGS Quadrangle Name: Newport Beach

Township: 6S **Range:** 10W **Section(s):** 4, 5, 7, 8, 9, 16, 17, 18, 19, 20, 21

Company/Firm/Agency: DUDEK

Street Address: 27271 Las Ramblas Suite 340

City: Mission Viejo, CA **Zip:** 92691

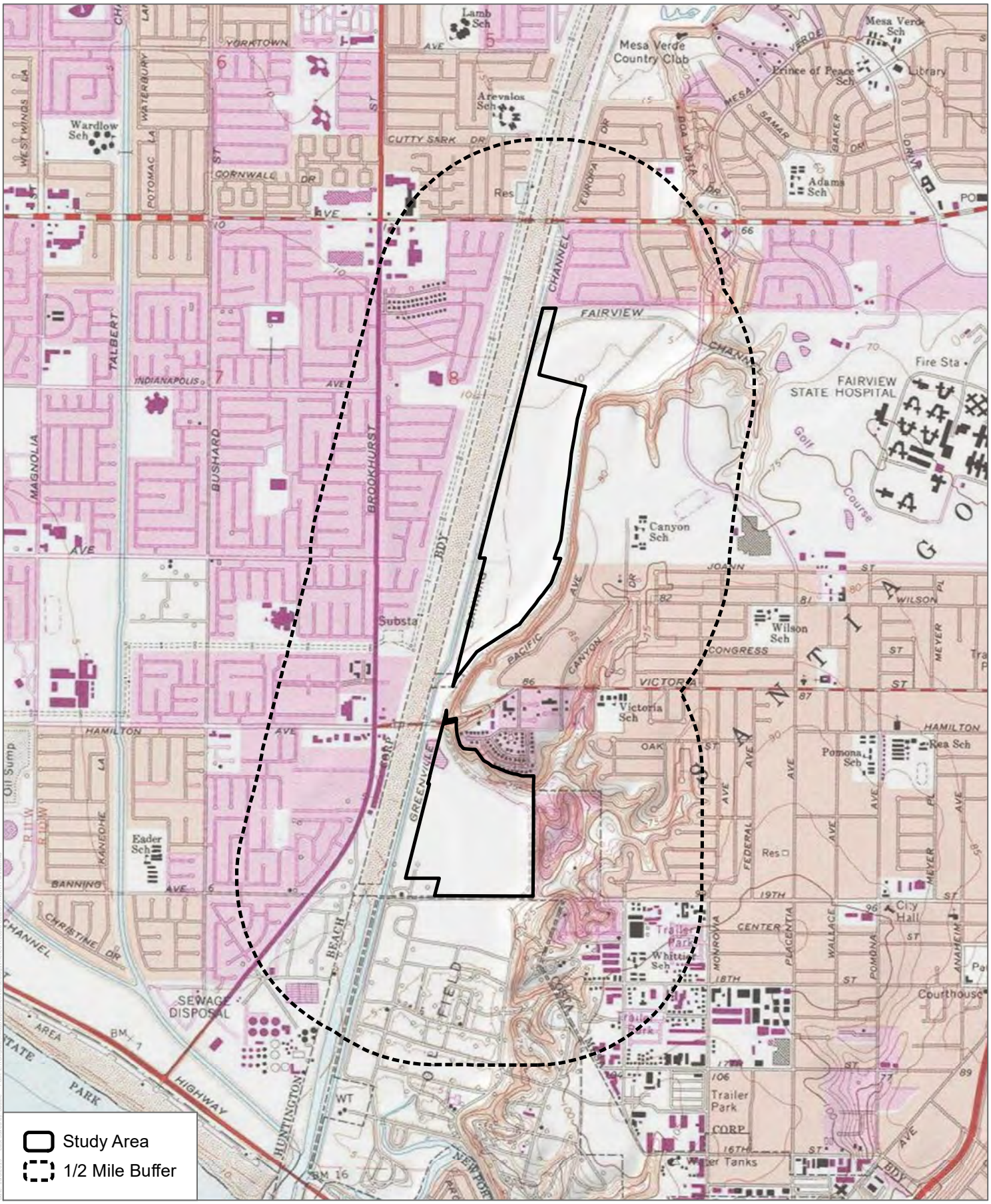
Phone: (760) 557-0998

Fax:

Email: rbakhtiary@dudek.com

Project Description:

Restoration of 160-acres of open space.



SOURCE: USGS 7.5-Minute Series Newport Beach Quadrangle
Township 6S; Range 10W; Sections 4, 5, 7, 8, 9, 16, 17, 18, 19, 20, 21

DUDEK

0 1,000 2,000 Feet
0 285 570 Meters
1:24,000

Records Search

Talbert Regional Park Master Plan

Roshanne Bakhtiary

From: Green, Andrew@NAHC <Andrew.Green@nahc.ca.gov>
Sent: Wednesday, October 15, 2025 3:41 PM
To: Roshanne Bakhtiary
Cc: Gabrieleno Administration; Gttribalcouncil; sonia.johnston@sbcglobal.net; kaamalam@gmail.com
Subject: Talbert Regional Park Master Plan Update Project
Attachments: SLF Yes Talbert Regional Park Master Plan Update Project 10.15.2025.pdf; Talbert Regional Park Master Plan Update Project 10.15.2025.xlsx

Follow Up Flag: Flag for follow up
Flag Status: Flagged

Good afternoon,

Attached is the response to the project referenced above. If you have any additional questions, please feel free to contact me directly.

Regards,

Andrew Green
Native American Heritage Commission
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Andrew.Green@nahc.ca.gov
Direct Line: (916) 573-1072
Office: (916) 373-3710

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

SECRETARY
Isaac Bojorquez
Ohlone-Costanoan

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Sara Dutschke
Miwok

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
Bennae Calac
Pauma-Yuima Band of Luiseño Indians

COMMISSIONER
Vacant

COMMISSIONER
Vacant

ACTING EXECUTIVE SECRETARY
Michelle Carr

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov

October 15, 2025

Roshanne Bakhtiary
DUDEK

Via Email to: rbakhtiary@dudek.com

Re: Talbert Regional Park Master Plan Update Project, Orange County

To Whom It May Concern:

As requested, a search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed based on information submitted for the above referenced project. The results were positive. Please contact the Gabrieleno Band of Mission Indians – Kizh Nation, the Gabrieleno/Tongva San Gabriel Band of Mission Indians, the Juaneno Band of Mission Indians, and the Juaneno Band of Mission Indians Acjachemen Nation - Belardes on the attached list for more information. Be aware that tribes do not always record their sacred sites in the SLF, nor are they required to do so. As such, an SLF search is not a substitute for consultation with all tribes that are traditionally and culturally affiliated with a project's geographic area.

Attached is a list of Native American tribes that are traditionally and culturally affiliated with the project's geographic area. Please contact all of the listed tribes as they may have information about sacred sites within the project area that is not listed with the NAHC.

If within two weeks of notification, a response has not been received, the Commission requests that you follow up with a telephone call or email to ensure that the project information was received.

If you receive notification of a change of address or phone number from a tribe, please inform the NAHC so that we can assure that our lists contain current information.

In addition to engaging in tribal consultation, you should consult the appropriate regional California Historical Research Information System (CHRIS) information center to determine whether it has information regarding the presence of recorded archaeological sites within the project area.

If you have any questions or need additional information, please contact me at Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Orange County
10/15/2025

Tribe Name	F/N	Contact Person	Contact Address	Phone	Email Address	Cultural Affiliation	Counties
Cahuilla Band of Indians	F	BobbyRay Esparza, Cultural Director	52701 CA Highway 371 Anza, CA, 92539	(951) 763-5549	besparza@cahuilla-nsn.gov	Cahuilla	Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego
Cahuilla Band of Indians	F	Anthony Madrigal, Tribal Historic Preservation Officer	52701 CA Highway 371 Anza, CA, 92539	(951) 763-5549	anthonymad2002@gmail.com	Cahuilla	Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego
Cahuilla Band of Indians	F	Erica Schenk, Chairperson	52701 CA Highway 371 Anza, CA, 92539	(951) 590-0942	chair@cahuilla-nsn.gov	Cahuilla	Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego
Gabrieleno Band of Mission Indians - Kizh Nation	N	Christina Swindall Martinez, Secretary	P.O. Box 393 Covina, CA, 91723	(844) 390-0787	admin@gabrielenoindians.org	Gabrieleno	Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura
Gabrieleno Band of Mission Indians - Kizh Nation	N	Andrew Salas, Chairperson	P.O. Box 393 Covina, CA, 91723	(844) 390-0787	admin@gabrielenoindians.org	Gabrieleno	Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura
Gabrieleno/Tongva San Gabriel Band of Mission Indians	N	Anthony Morales, Chairperson	P.O. Box 693 San Gabriel, CA, 91778	(626) 483-3564	GTTribalcouncil@aol.com	Gabrieleno	Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura
Gabrielino Tongva Indians of California Tribal Council	N	Christina Conley, Cultural Resource Administrator	P.O. Box 941078 Simi Valley, CA, 93094	(626) 407-8761	christina.marsden@alumni.usc.edu	Gabrielino	Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura
Gabrielino Tongva Indians of California Tribal Council	N	Robert Dorame, Chairperson	P.O. Box 490 Bellflower, CA, 90707	(562) 761-6417	gtongva@gmail.com	Gabrielino	Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura

Tribe Name	F/N	Contact Person	Contact Address	Phone	Email Address	Cultural Affiliation	Counties
Gabrielino/Tongva Nation	N	Sandonne Goad, Chairperson	106 1/2 Judge John Aiso St., #231 Los Angeles, CA, 90012	(951) 807-0479	sgoad@gabrielino-tongva.com	Gabrielino	Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura
Gabrielino-Tongva Tribe	N	Sam Dunlap, Cultural Resource Director	P.O. Box 3919 Seal Beach, CA, 90740	(909) 262-9351	tongvatcr@gmail.com	Gabrielino	Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura
Gabrielino-Tongva Tribe	N	Charles Alvarez, Chairperson	23454 Vanowen Street West Hills, CA, 91307	(310) 403-6048	Chavez1956metro@gmail.com	Gabrielino	Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, Ventura
Juaneno Band of Mission Indians	N	Sonia Johnston, Chairperson	P.O. Box 25628 Santa Ana, CA, 92799		sonia.johnston@sbcglobal.net	Juaneno	Orange, Riverside, San Diego
Juaneno Band of Mission Indians Acjachemen Nation - Belardes	N	Joyce Perry, Cultural Resource Director	4955 Paseo Segovia Irvine, CA, 92603	(949) 293-8522	kaamalam@gmail.com	Juaneno	Los Angeles, Orange, Riverside, San Bernardino, San Diego
Juaneno Band of Mission Indians Acjachemen Nation 84A	N	Shannon Wingfield, Secretary	31411-A La Matanza Street San Juan Capistrano, CA, 92675	(949) 488-3484		Juaneno	Los Angeles, Orange, Riverside, San Bernardino, San Diego
Juaneno Band of Mission Indians Acjachemen Nation 84A	N	Heidi Lucero, THPO/MLD	31411-A La Matanza Street San Juan Capistrano, CA, 92675	(562) 879-2884	thpo@jbmian.com	Juaneno	Los Angeles, Orange, Riverside, San Bernardino, San Diego
Juaneno Band of Mission Indians Acjachemen Nation 84A	N	Nathan Banda, Chairman	31411-A La Matanza Street San Juan Capistrano, CA, 92675	(949) 426-8804	nbanda@jbmian.com	Juaneno	Los Angeles, Orange, Riverside, San Bernardino, San Diego

Tribe Name	F/N	Contact Person	Contact Address	Phone	Email Address	Cultural Affiliation	Counties
Pala Band of Mission Indians	F	Christopher Nejo, Legal Analyst/Researcher	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3564	cnejo@palatribe.com	Cupeno Luiseno	Orange, Riverside, San Bernardino, San Diego
Pala Band of Mission Indians	F	Alexis Wallick, Assistant THPO	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3537	awallick@palatribe.com	Cupeno Luiseno	Orange, Riverside, San Bernardino, San Diego
Pala Band of Mission Indians	F	Shasta Gaughen, Tribal Historic Preservation Officer	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3515	sgaughen@palatribe.com	Cupeno Luiseno	Orange, Riverside, San Bernardino, San Diego
Santa Rosa Band of Cahuilla Indians	F	Vanessa Minott, Tribal Administrator	P.O. Box 391820 Anza, CA, 92539	(951) 659-2700	vminott@santarosa-nsn.gov	Cahuilla	Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego
Santa Rosa Band of Cahuilla Indians	F	Mercedes Estrada, Cultural Director	P.O. Box 391820 Anza, CA, 92539	(951) 659-2700	mestrada@santarosa-nsn.gov	Cahuilla	Imperial, Los Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego
Santa Rosa Band of Cahuilla Indians	F	Steven Estrada, Tribal Chairman	P.O. Box 391820 Anza, CA, 92539	(951) 659-2700	sestrada@santarosa-nsn.gov	Cahuilla	Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego
Soboba Band of Luiseno Indians	F	Joseph Ontiveros, Tribal Historic Preservation Officer	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-5279	jontiveros@soboba-nsn.gov	Cahuilla Luiseno	Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego
Soboba Band of Luiseno Indians	F	Jessica Valdez, Cultural Resource Specialist	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-6261	jvaldez@soboba-nsn.gov	Cahuilla Luiseno	Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Talbert Regional Park Master Plan Update Project, Orange County.

Appendix D

Paleontological Resources Records Search
(Confidential)

Appendix E

Noise Field Data and Modeling Outputs

FORMS DUDEK FIELD DATA REPORT

Field Noise Measurement Data

Record: 1489	
Project Name	*Talbert Regional Park*
Project #	*13230.06*
Observer(s)	
Date	*2022-10-07*

Meteorological Conditions	
Temp (F)	*73.5*
Humidity % (R.H.)	*72*
Wind	*Moderate*
Wind Speed (MPH)	*4*
Wind Direction	*South West*
Sky	*Clear*

Instrument and Calibrator Information	
Instrument Name List	*Piccolo #1893*
Instrument Name	*Piccolo #1893*
Instrument Name Lookup Key	*Piccolo #1893*
Manufacturer	*Soft dB inc.*
Model	*Piccolo*
Serial Number	*P0222050202*
Calibration Date	*05/02/2022*
Calibrator Name	*(SB) LD CAL200*
Calibrator Name	*(SB) LD CAL200*
Calibrator Name Lookup Key	*(SB) LD CAL200*
Calibrator Manufacturer	*Larson Davis*
Calibrator Model	*LD CAL200*
Calibrator Serial #	*19952*
GPS Assistance Used	*No*
Pre-Test (dBA SPL)	*94.1*
Post-Test (dBA SPL)	*94*
Windscreen	*Yes*
Weighting?	*A-WTD*
Slow/Fast?	*Slow*
ANSI?	*Yes*

Monitoring	
Record #	*1*
Site ID	*ST1*
Site Location Lat/Long	*33.661713, -117.939218*
Begin (Time)	*11:32:00*
End (Time)	*11:47:00*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Aircraft*
Other Noise Sources (Background)	*Birds, Distant Aircraft, Distant Conversations / Yelling, Distant Kids Playing, Distant Traffic, Rustling Leaves*
Other Noise Sources Additional Description	*Noise from the restrooms, bicyclists*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

FORMS FIELD DATA REPORT

Monitoring

Record #	*2*
Site ID	*ST2*
Site Location Lat/Long	*33.657912, -117.943059*
Begin (Time)	*11:59:00*
End (Time)	*12:14:00*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Aircraft*
Other Noise Sources (Background)	*Birds, Distant Aircraft, Distant Traffic, Rustling Leaves*
Other Noise Sources Additional Description	*Water running (from housing), noise from houses, sirens, footsteps*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Terrain	*Mixed*

Site Photos

Photo

Comments / Description	*ST2 South*

Site Photos

Photo	
Comments / Description	*ST2 East*

Site Photos

Photo	
Comments / Description	*ST2 West*

Site Photos

Photo	
Comments / Description	*ST2 North*

Monitoring

Record #	*3*
Site ID	*ST3*
Site Location Lat/Long	*33.651877, -117.948313*
Begin (Time)	*12:21:00*
End (Time)	*12:36:00*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Traffic*
Other Noise Sources (Background)	*Birds, Distant Aircraft, Distant Dog Barking, Distant Gardener / Landscape Noise, Distant Traffic, Rustling Leaves*
Other Noise Sources Additional Description	*Sprinklers*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Terrain	*Soft*

Site Photos

Photo	
Comments / Description	*ST3 North*

Site Photos

Photo	
Comments / Description	*ST3 West*

Site Photos

Photo	
Comments / Description	*ST3 East*

Site Photos

Photo	
Comments / Description	*ST3 South*

Monitoring

Record #	*4*
Site ID	*ST4*
Site Location Lat/Long	*33.650153, -117.948789*
Begin (Time)	*12:43:00*
End (Time)	*12:58:00*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Traffic*
Other Noise Sources (Background)	*Distant Aircraft, Distant Traffic, Rustling Leaves*
Other Noise Sources Additional Description	*Flag flapping, Car doors, motorized bikes*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Terrain	*Hard*

Site Photos

Photo	
Comments / Description	*ST4 North*

Site Photos

Photo	
Comments / Description	*ST4 West*

Site Photos

Photo	
Comments / Description	*ST4 South*

Site Photos

Photo	
Comments / Description	*ST4 East*

Monitoring

Record #	*5*
Site ID	*ST6*
Site Location Lat/Long	*33.644716, -117.945088*
Begin (Time)	*13:08:00*
End (Time)	*13:23:00*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Traffic*
Other Noise Sources (Background)	*Birds, Distant Aircraft, Distant Traffic, Rustling Leaves*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Terrain	*Mixed*

Site Photos

Photo	
Comments / Description	*ST6 North*

Site Photos

Photo	
Comments / Description	*ST6 West*

Site Photos

Photo	
Comments / Description	*ST6 East*

Site Photos

Photo	
Comments / Description	*ST6 South*

Monitoring

Record #	*6*
Site ID	*ST5*
Site Location Lat/Long	*33.647056, -117.945137*
Begin (Time)	*13:28:00*
End (Time)	*13:43:00*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Aircraft*
Other Noise Sources (Background)	*Birds, Distant Aircraft, Distant Industrial, Distant Traffic, Rustling Leaves*
Other Noise Sources Additional Description	*Noise from housing, flags flapping, beeping from mail truck, whirring machinery*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Terrain	*Hard*

Site Photos

Photo	
Comments / Description	*ST5 North*

Site Photos

Photo	
Comments / Description	*ST5 West*

Site Photos

Photo	
Comments / Description	*ST5 East*

Site Photos

Photo	
Comments / Description	*ST5 South*

Description / Photos

Terrain	*Mixed*

Site Photos

Photo	
Comments / Description	*ST1 North*

Site Photos

Photo	
Comments / Description	*ST1 West*

Site Photos

Photo	
Comments / Description	*ST1 East*

Site Photos

Photo	
Comments / Description	*ST1 South*

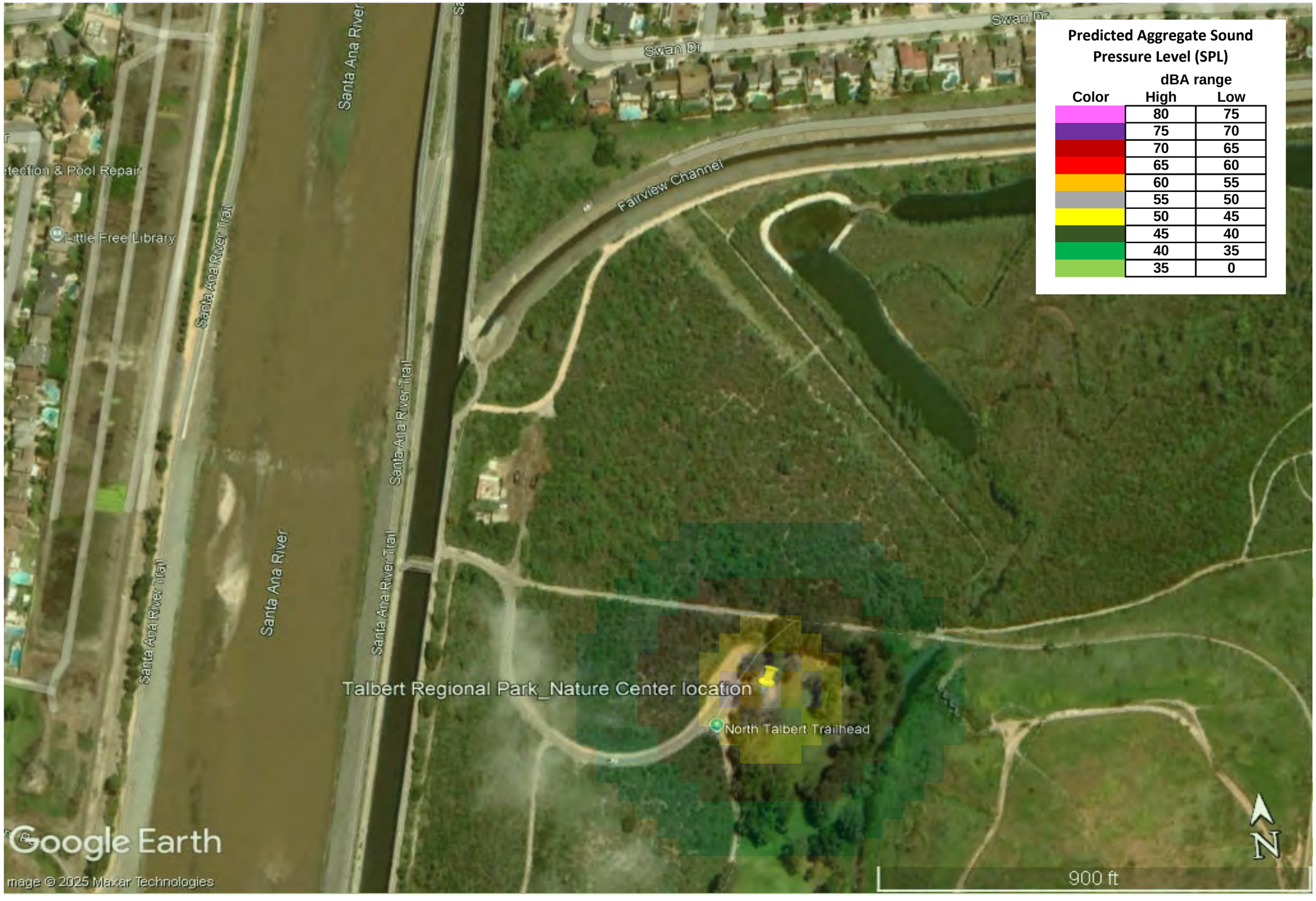
To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase at residential land use, per FTA guidance = 80

allowable hours over which Leq is to be averaged = 8

= temporary barrier (TB) of input height inserted between source and receptor

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Site Preparation	backhoe	1	40	78		50	0.1		77.9	8	480	74	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	grader	1	40	85		50	0.1		84.9	8	480	81	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	scraper	1	40	84		50	0.1		83.9	8	480	80	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
									Total for Site Preparation Phase:			83.9																
Site Preparation-Overall Site	backhoe	1	40	78		50	0.1		77.9	8	480	74	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	grader	1	40	85		50	0.1		84.9	8	480	81	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	excavator	1	40	81		50	0.1		80.9	8	480	77	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
									Total for Site Preparation-Overall Site Phase:			82.9																
Grading	grader	1	40	85		50	0.1		84.9	8	480	81	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	backhoe	2	40	78		50	0.1		77.9	8	480	77	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	dozer	1	40	82		50	0.1		81.9	8	480	78	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
									Total for Grading Phase:			83.7																
Grading - Balboa Blvd	Grader	1	40	85		50	0.1		84.9	8	480	81	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	dozer	1	40	82		50	0.1		81.9	8	480	78	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	backhoe	2	40	78		50	0.1		77.9	8	480	77	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
									Total for Grading - Balboa Blvd Phase:			83.7																
Trail Allignment	Grader	1	40	85		50	0.1		84.9	7	420	80	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	backhoe	2	40	78		50	0.1		77.9	4	240	74	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	dozer	1	40	82		50	0.1		81.9	2	120	72	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	Compactor (ground)	1	20	80		50	0.1		79.9	1	60	64	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
									Total for Trail Allignment Phase:			81.8																
Paving	Paver	1	50	77		50	0.1		76.9	7	420	73	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	roller	1	20	80		50	0.1		79.9	4	240	70	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	Concrete Mixer Truck	1	40	79		50	0.1		78.9	2	120	69	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	backhoe	1	40	78		50	0.1		77.9	1	60	65	5	5	0	45	5	50	45.3	7.1	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
									Total for Paving Phase:			**76.2**																
Trenching	backhoe	1	40	78		780	0.1		48.7	8	480	45	5	5	0	775	5	780	775.0	7.1	780.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	excavator	1	40	81		780	0.1		51.7	6	360	46	5	5	0	775	5	780	775.0	7.1	780.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	Compactor (ground)	1	20	80		780	0.1		50.7	6	360	42	5	5	0	775	5	780	775.0	7.1	780.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
									Total for Trenching Phase:			**49.6**																



SOURCE: Dudek 2023

DUDEK

N

0 67 134 Feet

FIGURE 1

Talbert Regional Park Operation Noise

Talbert Regional Park Project

Appendix F
Fire Hazard Assessment

Fire and Fuel Modification Assessment

Talbert Regional Park Master Plan Project

OCTOBER 2025

Prepared for:

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
BTU	British Thermal Unit
CAL FIRE	California Department of Forestry and Fire Protection
CALTRANS	California Department of Transportation
F	Fahrenheit
FRAP	Fire and Resource Assessment Program
GIS	Geographic Information Systems
I-	Interstate
I&R	Institutional & Recreational
LRA	Local Responsibility Area
MPH	miles per hour
MSDS	material safety data sheet
OCFA	Orange County Fire Authority
OC Parks	Orange County Parks Department
OCPW	Orange County Public Works
SCE	Southern California Edison
FHSZ	Fire Hazard Severity Zone

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1 Introduction

The Talbert Regional Park Master Plan Project is proposed by the Orange County Parks Department (OC Parks) in conjunction with the Orange County Department of Public Works (OCPW) to restore an approximately 180-acre area (project site) located both north and south of Victoria Street in the City of Costa Mesa, California. These two areas of Talbert Regional Park, north and south Talbert, will collectively be referred to as the project site, or simply the Park.

This report describes the fire conditions of the project site. As part of the assessment, property location and its topography, surrounding combustible vegetation (fuel types), climatic conditions, fire history, and the proposed land use were all considered. This assessment provides recommendations for the types and methods of treatment that will reduce overall risk to the project site.

The following tasks were performed as part of the analysis conducted for this assessment:

- Gather site-specific climate, terrain, and fuel data;
- Process and analyze the data using the latest GIS technology;
- Predict fire behavior using scientifically based fire behavior models, comparisons with actual wildfires in similar terrain and fuels, and experienced judgment;
- Assess the risk associated with the Project and the Project site; and
- Prepare Fire Hazard Assessment report detailing recommendations to reduce fire risk within the Project site.

1.1 Location

The proposed project site is located in western Costa Mesa along the Santa Ana River, in western Orange County, (Figure 1, Project Location). Regional access is provided via State Route 55 and Interstate (I-) 405. Nearby cities include Huntington Beach, Fountain Valley, Santa Ana, Irvine, Newport Beach and unincorporated County. The 182-acre property consists of two areas divided horizontally by Victoria Street, and serves the cities of Huntington Beach, Costa Mesa, and Newport Beach.

The North Talbert parcel is bounded to the north and east by the city of Costa Mesa's Fairview Park, to the west by the Santa Ana River, and the south by Victoria Street. The Fairview Channel bisects the northernmost portion of the Park. South Talbert is bounded to the north by Victoria Street, to the east by Balboa Boulevard, to the west by the Santa Ana River, and to the south by the Banning Ranch property. The City of Costa Mesa operates three adjacent facilities: Canyon Park, Vista Park and Fairview Park. Canyon Park is east of South Talbert, adjacent to a residential area situated atop of a mesa. Vista Park is adjacent to Victoria Street at the southern tip of North Talbert. The entirety of Talbert Regional Park lies within the local responsibility area (LRA). The entirety of South Talbert is designated as a Moderate Fire Hazard Severity Zone(FHSZ) by California Department of Forestry and Fire Protection (CAL FIRE). The majority of North Talbert is designated as a High FHSZ, surrounded by moderate FHSZ. The southern tip of North Talbert is not designated as a FHSZ.

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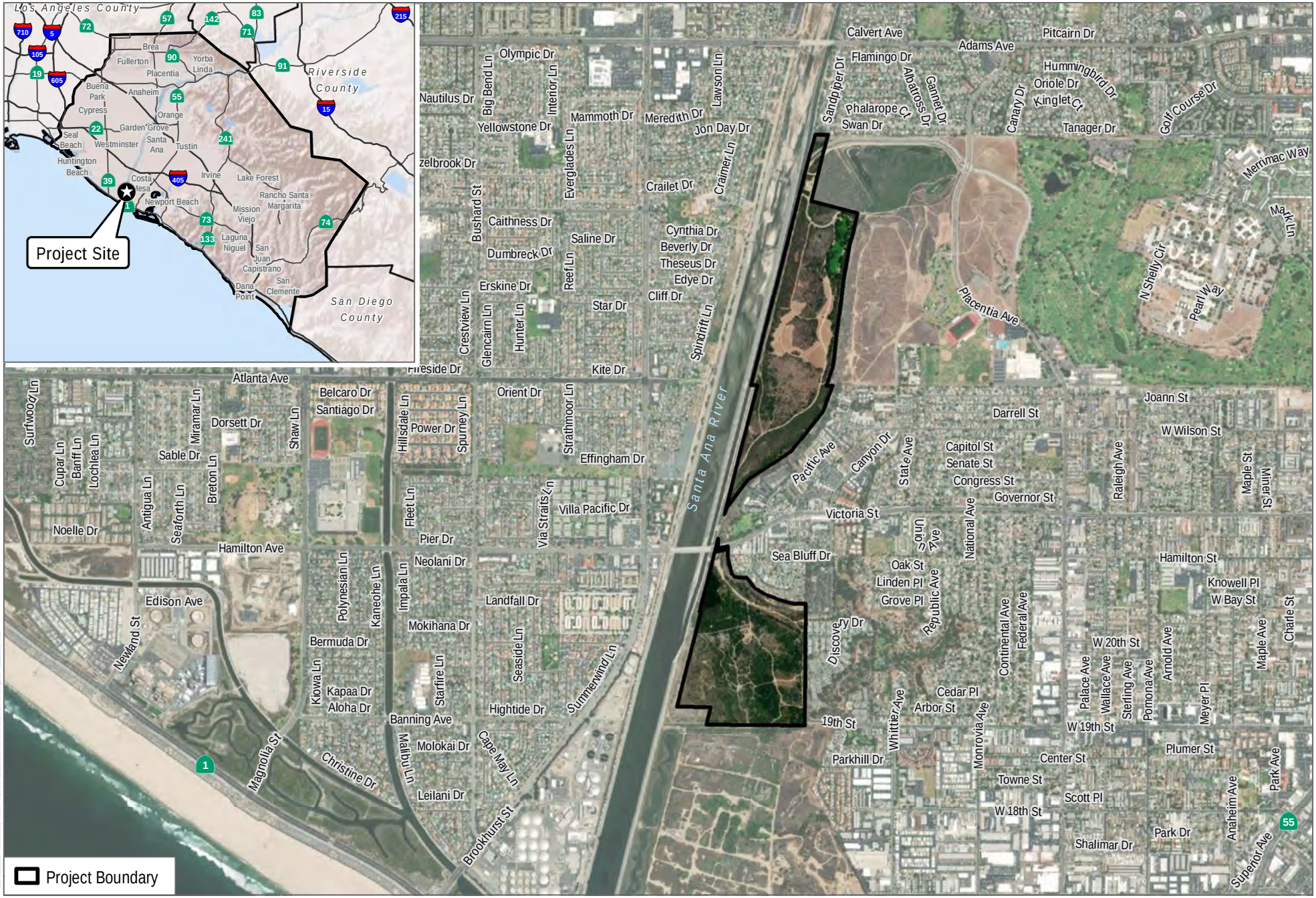

SOURCE: County of Orange; Open Street Maps 2019; DigitalGlobe Accessed 2022

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Talbert Regional Park Master Plan Project

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1.2 Environmental Setting

The Park is designated as Public/Institutional in the City of Costa Mesa General Plan Land Use map and is zoned as Institutional & Recreational (I&R) (City of Costa Mesa 2016a; 2016b). Offering both passive and active recreation, the Park is used predominantly by hikers and joggers, nature watchers, casual bicyclists, and motocross bicyclists. North Talbert features a large grassy area, picnic areas, an equestrian corral and watering station, and restroom facilities. The trail system winding throughout North and South Talbert allows for observation of natural resources and linkage to other parks up and down stream along the Santa Ana River. Group use within the habitat areas is permitted, consisting of guided nature walks and individual use is facilitated by interpretive signage. The primary feature at South Talbert is Victoria Pond, a scenic natural resource visible from Victoria Avenue and available for fishing. The water body was expanded to the south in 1991 as a mitigation measure during construction of the Greenville-Banning Channel. A hydrographic survey conducted in 2014 found the maximum pond depth to be approximately 7.4 feet.

Currently, no on-site parking is available for Park visitors. Two City of Costa Mesa-owned areas accessible by foot near North Talbert provide parking along Placentia Avenue: Fairview Park and Vista Park. Limited street parking is available for South Talbert along Balboa Boulevard, and at the terminus of West 19th Street. Both North and South Talbert offer extensive public trail networks. Trails can be accessed by traversing through Fairview Park or Vista Park, and from Arbor Street by traversing through Canyon Park to South Talbert. Trails can also be accessed from Victoria Street or via the Santa Ana River Trail Footbridge connecting to the Banning Channel Bikeway. North Talbert trails consist of a mixture of decomposed granite near the grassy public use area, transitioning to dirt to the south, and asphalt to the north. South Talbert trails consist predominantly of natural earthen loamy soil that becomes slick and prone to collect water during the rainy season.

The only connection between North and South Talbert, is provided by the Banning Channel Bikeway, which passes under Victoria Street. A paved mixed-use trail atop the Santa Ana River flood control levee, the Bikeway is frequently used by pedestrians, joggers, and bicyclists. Other off-site pedestrian connections include a stairway within Fairview Park adjacent to the northeastern boundary in North Talbert. Canyon Park also includes a trail connection to South Talbert at the far side of Balboa Avenue.

Existing topography within the Park is generally flat, sloping gently from north to south, with elevations ranging from nearly twelve feet at the north boundary, to five feet at the southern end. The Park is bounded by bluffs rising approximately 80 feet above the site along the north and east boundaries. Notable topographic features within North Talbert include Placentia Drain, a linear channel at the base of the eastern bluffs providing drainage for Fairview Park as well as Talbert. South Talbert includes Victoria Pond near the staging area, and an internal BMX skill area referred to as “Sheephills”. A portion of the lower Greenville-Banning Channel crosses within the site boundary, and upland mesas are included along the southeastern boundary.

1.3 Project Description

The proposed project includes key improvements, infrastructure improvements, and habitat restoration as described below and are established by the Master Plan.

Proposed Key Improvements

Design concepts for the Park have evolved through a collaborative process with the regulatory agencies and surrounding communities. The proposed improvements began as concepts designed to be compatible with the surrounding context and provide a higher degree of function as well as recreational opportunities. The proposed key improvements are:

- Nature Center
- Balboa Boulevard Entrance
- Infrastructure Improvements

Nature Center

A new Nature Center is proposed within the northeastern corner of the North Talbert parcel at the location of the existing restrooms. The existing restrooms are provided in a small, circular building (approximately 250 square feet in size) located on a concrete slab/foundation and constructed of concrete masonry blocks. The Nature Center building would be approximately 500 square feet in size, and would be constructed of concrete with a stucco finish and metal roof with a low-reflectivity finish. The Nature Center may include a small classroom area, restrooms, and interpretive signage to serve as an educational center for park visitors.

Balboa Boulevard Entrance

Improvement of the existing Balboa Boulevard entrance to accommodate emergency and maintenance vehicles, bikes, and pedestrians. As proposed, the existing railroad-tie stairs providing park access from adjacent Balboa Boulevard and located near the intersection of Balboa Boulevard and Discovery Drive would be retained and supplemented with a new a 15-foot-wide ADA-accessible ramp that would accommodate emergency vehicle access. The ramp would be constructed of compacted natural soil and would be firm, stable, and slip-resistant (a decomposed granite surface may be installed/specified during the preparation of construction documents for the project). A gate and rolled curb opening area is proposed at the ramp entrance off Balboa Boulevard. . Monument and wayfinding signage will be installed to direct visitors to the Park.

Proposed Infrastructure Improvements

Enhancements of the interior circulation system is proposed to provide improved multi-modal trails to enhance user experience. Improvements to existing access, trails, maintenance yard, and wayfinding systems are described below.

Trail Improvements

The bike and pedestrian trail system constitutes the primary visitor activity within the Park. The South Talbert pedestrian circulation route is to be improved as a raised, 15-foot wide trail. This improvement, that would entail raising the existing trail (approximately 8,350 feet in length) up to 18 inches from its current elevation (see Figure 4, Conceptual Trail Segments), would correct the existing drainage and ponding problem by reducing the occurrence of seasonal wet areas. Additionally, a new 4-foot-wide, 200-foot long, single-track trails (not raised) in North Talbert and a new, 15-foot wide, 2,020 foot long trail (raised) in South Talbert is proposed to enhance connections within the existing network by providing formalized access to the existing Victoria Pond and lateral, more direct access to the nearby Banning Channel Bikeway. A new access ramp connecting the new, east-west trail in South Talbert to

the Banning Channel Bikeway would also be constructed. This enhanced system would also accommodate requirements for both ADA and emergency access.

Maintenance Yard

Proposed improvements to the existing maintenance yard located in North Talbert consist of extending electrical service, as well as installing durable security fencing, a security camera, and lighting. The existing maintenance yard area consists of two mostly fenced areas (and associated storage trailers (shipping containers)) totaling approximately 4,750 square feet and surrounding disturbed and unvegetated lands. Electrical service would be extended from an existing buried line at the existing restrooms located in the northeastern corner of the North Talbert parcel. Trenching for electrical service between the restrooms building and the maintenance yard would occur within existing roads/areas of linear disturbance. During operations, lighting installed at the maintenance yard would only be turned on when needed by OC Parks staff or other authorized personnel.

Wayfinding

Wayfinding signage will be installed throughout the Park to announce arrival, strengthen branding identity as a part of the OC Parks system and provide clear direction. Proposed signage types include Arrival Signs, Directional Signs, Interpretive Signs, and Trail Markers. Generally, wayfinding signage would be installed via post/pole footings into small concrete foundations.

Habitat Restoration

The Park functions as a protected nature area within the urban fabric and is home to wildlife species that are dependent on the health of the larger ecosystem. The Master Plan calls for restoration through the removal of non-native vegetation throughout South Talbert, and at the Placentia Drain within North Talbert. Planting of native coastal sage and riparian tree species is planned within South Talbert to expand the existing mitigation/restoration areas. The Restoration Plan includes non-native plant removal and vegetation thinning both of which are described in more detail below.

Non-Native Plant Removal

Throughout the Park, removal of non-native vegetation is to be conducted on an on-going basis. Specifically, exotic tree species including Brazilian Pepper and Myoporum are to be removed in the area directly south of Victoria Pond. These trees are to be replaced by natives and the removal will create open areas where expansion of native habitat will be promoted.

Vegetative Thinning

To discourage the existing encampments within the Park, thinning of dense shrubs in selected areas is proposed. Current encampment areas are to be partially cleared to provide a higher level of visibility to promote public safety.

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2 Project Site Risk Analysis

2.1 Site Characteristics and Fire Environment

Fire environments are dynamic systems and include many types of environmental factors and site characteristics. Fires can occur in any environment where conditions are conducive to ignition and fire movement. Areas of naturally vegetated open space are typically comprised of conditions that may be favorable to wildfire spread. The three major components of the fire environment are topography, vegetation (fuels), and climate. The state of each of these components and their interactions with each other determines the potential characteristics and behavior of a fire at any given moment. Because the project site is adjacent to residential and commercial land uses, it is important to note that wildland fire may transition to urban fire if structures are receptive to ignition. Structure ignition depends on a variety of factors and can be prevented through a layered system of protective features including fire-resistive landscapes directly adjacent to the structure(s), application of known ignition resistive materials and methods, and suitable infrastructure for firefighting purposes. Understanding the existing wildland vegetation and urban fuel conditions on and adjacent to the Project site is necessary to understand the potential fire risk within and adjacent to the Project.

2.1.1 Topography

Existing topography within the Park is generally flat, sloping gently from north to south, with elevations ranging from nearly twelve feet at the north boundary, to five feet at the southern end. The Park is bounded by bluffs rising approximately 80 feet above the site along the north and east boundaries. Notable topographic features within North Talbert include Placentia Drain, a linear channel at the base of the eastern bluffs providing drainage for Fairview Park as well as Talbert. South Talbert includes Victoria Pond near the staging area, and an internal BMX skill area referred to as “Sheephills”. A portion of the lower Greenville-Banning Channel crosses within the site boundary, and upland mesas are included along the southeastern boundary.

2.1.2 Climate

The study area is located within the Peninsular Range, less than 1 mile from the Pacific Ocean. It is in a Mediterranean climate characterized by mild, dry summers and wet winters. Average temperatures near Newport Beach range from approximately 55° Fahrenheit (F) to 68°F, and the area generally receives an average rainfall of less than 11 inches per year (WRCC 2025).

Fire risk is typically greatest in fall during periods when there is a high pressure system in the Great Basin and a low-pressure trough along the southern California coast producing Santa Ana Winds that blow from east and northeast over the western slopes of the coastal mountains (Minnich 1983, Moritz 1997, Keeley and Fotheringham 2003, Keeley and Zedler 2009). Santa Ana winds often have speeds greater than 60 mi/h (100 km/h) and 10% (or lower) relative humidity for sustained periods (Keeley and Fotheringham 2003, Keeley and Zedler 2009). On the coastal side of mountains, differences in heating and cooling of valleys and slopes in relation to the land and the ocean creates complex wind patterns. During the day, onshore flows from the ocean can blow counter to the Santa Ana winds and lead to unpredictable fire behavior. During the night, Santa Ana winds often regain their strength with greatest speeds around day break. Santa Ana wind occurrence is greatest from September through

April with a peak during December. Fire danger is greatest when live fuel moisture is low, such as the fall and early winter before the rains have started (Dennison et al. 2008).

Another type of weather pattern that can produce high fire danger year-round occurs when a ridge or closed high[1] persists over the western portion of the United States. At the surface, this pattern produces very high temperatures, low humidity, and air-mass instability (Schroeder and Buck 1970).

2.1.3 Vegetation and Fuels

As detailed further in the project's Biological Resources Technical Report (Dudek 2025), thirty-five vegetation communities and land covers (including disturbed forms) were mapped in the study area based on general physiognomy and species composition, including 28 native or naturalized vegetation types and 7 non-native land covers. The 35 vegetation communities and land cover types and acreages are presented in Table 1.

Table 1. Vegetation Communities and Land Cover Types Within the Study Area

Vegetation Community	Scientific Name	Vegetation Community Code	Project Site (Onsite) (Acres)	Study Area (Offsite) (Acres)
Forest and Woodland Alliances				
Arroyo Willow Association	*Salix lasiolepis*	SALLAS	5.81	0.0
Arroyo Willow/Mulefat Association	*Baccharis salicifolia*	SALLAS / BASCAL	2.60	1.39
Black Willow Association	*Salix gooddingii*	SALGOO	2.51	0.0
Black Willow/Mulefat	*Salix gooddingii/Baccharis salicifolia*	SALGOO / BACSAL	3.52	6.87
Black Willow Thickets	*Salix gooddingii*	BWT	3.42	0.46
Blue Elderberry/Toyon Association	*Sambucus nigra* sp. *caerulea/Heteromeles arbutifolia*	SAMNIG / HETARB	4.94	0.11
California Sycamore/Coast Live Oak Association*	*Platanus racemosa/ Quercus agrifolia*	PLARAC / QUEGAR	3.88	0.11
Eucalyptus Groves	*Eucalyptus sp.*	EG	1.47	0.19
Mulefat thickets	*Baccharis salicifolia*	MFT	18.43	5.45
Mulefat/Blue Elderberry	*Baccharis salicifolia/ Sambucus nigra* sp. *caerulea*	BACSAL / SAMNIG	29.35	14.86
Mulefat / Menzies's goldenbush / Quailbush Association	*Baccharis salicifolia/Isocoma menziesii/ Atriplex lentiformis*	BACSAL / ISOMEN / ATRLEN	7.20	0.0
White Alder / California Sycamore Association*	*Alnus rhombifolia / Platanus racemosa*	ALRHO / PLARAC	0.0	0.68

[1] Ridges form when the jet stream builds northward in an arc-like shape, and are associated with warm air, high pressure aloft, and a more stable atmosphere. This tends to result in dry, fair-weather conditions underneath the ridge. Sometimes, a closed circulation of high pressure develops under the center of the ridge with winds aloft blowing in a clockwise direction around the high-pressure center.

Table 1. Vegetation Communities and Land Cover Types Within the Study Area

Vegetation Community	Scientific Name	Vegetation Community Code	Project Site (Onsite) (Acres)	Study Area (Offsite) (Acres)
Subtotal of Forest and Woodland Alliances and Stands			*83.13*	*30.12*
Shrubland and Grassland Alliances				
Alkali heath / Salt grass Association	*Frankenia salina / Distichlis spicata*	FRASAL / DISSPI	0.12	2.71
American Bulrush Marsh*	*Schoenoplectus americanus*)	ABM	0.64	0.18
Black Mustard / Ripgut Brome Association	*Brassica nigra / Bromus diandrus*	BM / RB	1.19	0.98
California brittlebush / California sagebrush / Black Sage / Coyote brush Association	*Encelia californica / Artemisia californica / Salvia mellifera / Baccharis pilularis*	ENCCAL / ARTCAL / SALMEL / BACPIL	12.38	1.31
Cattail Marshes	*Typha*	CM	0.0	0.45
Coyote Brush Scrub	*Baccharis pilularis*	CYS	15.78	0.98
Coyote Brush / California Sagebrush Association	*Baccharis pilularis / Artemisia californica*	BACPIL / ARTCAL	1.45	0.05
Ice Plant Mats	*Carpobrotus edulis*	IPM	2.07	0.0
Menzies's Goldenbush Scrub*	*Isocoma menziesii*	MGBS	2.91	14.67
Pickleweed Mats*	*Salicornia*	PM	1.72	0.0
Poison Hemlock / Fennel Patches	*Conium maculatum / Foeniculum vulgare*	PH / FP	0.11	1.43
Quailbush Scrub	*Atriplex lentiformis*	QS	1.95	0.34
Saltgrass / Pacific Swampfire Association	*Distichlis spicata / Sarcocornia pacifica*	DISSPI / SARPAC	15.35	1.11
Smartweed / Cocklebur Patches	*Persicaria / Xanthium strumarium*	S/CP	0.61	0.0
Tarplant fields*	*Centromadia parryi* sp. *australis*	TPF	0.50	0.0
Upland mustards	*Hirschfeldia incana*	UM	21.46	13.09
Subtotal of Shrubland and Grassland Alliances			*75.33*	*37.30*
Non-Natural Land Covers and Unvegetated Communities				
Fivehook Bassia	*Bassia hyssopifolia*	BASSIA	1.62	0.0
Myoporum / Black Willow	*Myoporum* sp. / *Salix gooddingii*	MP / SALGOO	3.08	0.0
Concrete Channel	-	CC	0.77	1.29
Disturbed Habitat	-	DH	16.05	12.32
Open Water	-	OW	3.23	85.36
Parks and Ornamental Plantings	-	ORN	3.67	31.47
Urban/Developed	-	DEV	2.23	83.13
Subtotal of Non-Natural Land Covers and Unvegetated Communities			*27.57*	*216.65*

Table 1. Vegetation Communities and Land Cover Types Within the Study Area

Vegetation Community	Scientific Name	Vegetation Community Code	Project Site (Onsite) (Acres)	Study Area (Offsite) (Acres)
		Total	192.03	280.99

Source: Biological Resources Report, Dudek 2025
Note: *= Ranked by CDFW as Sensitive Vegetation Communities (S1-3).

2.1.3.1 Forest and Woodland

Riparian woodlands typically have a low fire hazard as their high moisture levels limit ignition potential and minimize the potential for wildfire spread. The vegetation within riparian woodlands responds slowly to changes in temperature and moisture, and significant surface shading from tree canopies limits fuel moisture loss. Surface fuels are relatively low in riparian woodlands; however, storm-related high water streamflow can deposit debris and contribute to fuel buildup as it dries out later in the season. During severe weather conditions, high fuel loads can result in high-intensity burning.

Coast live oak trees are very fire resistant, with fire adaptations including evergreen leaves, thick bark, and post-fire sprouting from surviving tissue. Fire intensity affects individual tree survival, with the amount and extent of trunk char and canopy consumption playing a critical role in survival and response (Plumb and Gomez 1983). Post-fire recovery of coast live oak woodlands is dependent on fire intensity and fall fire damage is typically more severe than that occurring earlier in the year (Plumb and Gomez 1983). While the thick bark of mature coast live oak trees minimizes the effects of heat exposure from wildfire, seedlings and acorns are much more susceptible to mortality, even following low-intensity fires (Lawson, Zedler and Sieger 1997).

Eucalyptus stands are composed of fuel structures ranging from fine to heavy and may include an understory of grass; brush; eucalyptus seedlings, saplings, and small trees; and eucalyptus leaf, twig, branch, and bark litter. Eucalyptus litter is generally moderately compacted with heavy to very heavy fuel loads; fuel loads in eucalyptus stands can reach between 45 and 100 tons per acre (Agee et al. 1973). Fuel buildup in blue gum eucalyptus stands is very rapid, exceeding that of other tree species, and its litter (dead leaves and debris) is especially flammable (Agee et al. 1973; NPS 2006; Wolf and DiTomaso 2016). Fuel reduction programs in eucalyptus stands are typically recommended to maintain low fuel load levels (USFS 2022).

2.1.3.2 Shrubland and Grassland

Grassland types may include scattered and widely spaced trees and/or shrubs, although grasses are the dominant cover type. Grasses are fine fuels that are loosely compacted with a low fuel load. Grasses have a high surface area-to-volume ratio, requiring less heat to remove fuel moisture and raise fuel to ignition temperature. They are also subject to early seasonal drying in late spring and early summer. Live fuel moisture content in grasses typically reaches its low point in early summer, and grasses begin to cure soon after. Due to these characteristics, grasses have potential for a high rate of spread, rapid ignition, and facilitation of extreme fire behavior. Grasses are the vegetation type in the Plan Area with the highest risk for wildfire ignition. Their low overall fuel loads typically result in faster moving fires with lower flame lengths and heat output. Untreated grasses can help spread fire into other adjacent surface fuel types (e.g., shrubs) or facilitate surface to crown fire transition where they exist beneath tree canopies.

Coastal scrub is considered a moderately fine fuel that is loosely compacted with a moderate fuel load. Coastal scrub has a high surface-area-to-volume ratio, requiring less heat to remove fuel moisture and raise the fuel to ignition temperature. It is subject to early seasonal drying in the late spring and early summer but does not fully cure in the way that grasses do. Compared to chaparral, coastal scrub tends to have a lower content of volatile organic compounds. The live fuel moisture content reaches its low point in the late summer and early fall. Dead fuels consist mainly of 1-hour and 10-hour fuel sizes, or twigs and small stems ranging from 0.25 inches to 1 inch in diameter. Coastal scrub has the potential for a high rate of spread, rapid ignition, and extreme fire behavior.

2.1.4 Vegetative Fire Hazard

Hazardous fuels include live and dead vegetation that exists in a condition that readily ignites; transmits fire to adjacent structures or ground, surface, or overstory vegetation; and/or can support extreme fire behavior. All vegetation will burn; however, some plants exhibit characteristics that make them more flammable than others. Flammability can be defined as a combination of ignitability, combustibility, and sustainability, where ignitability is the ease of or the delay of ignition; combustibility is the rapidity with which a fire burns; and sustainability is a measure of how well a fire will continue to burn with or without an external heat source (White and Zipperer 2010). Flammability is influenced by several factors, which can be classified into two groups: physical structure (e.g., branch size, leaf size, leaf shape, surface-to-volume ratio, and/or retention of dead material) and physiological elements (e.g., volatile oils, resins, and/or moisture content) (Moritz and Svihra 1998; UCCE 2016; UCFPL 1997; White and Zipperer 2010). Plants that are less flammable have low surface-to-volume ratios, high moisture contents, and minimal dead material or debris, while those that are more flammable have high surface-to-volume ratios, exhibit low moisture contents, contain volatile oils, and have high levels of dead material or debris (Moritz and Svihra 1998; UCFPL 1997; UCCE 2016; White and Zipperer 2010). Plant condition and maintenance is also an important factor in flammability. Some plants that have more flammable characteristics can become less flammable if well maintained and irrigated but can also be explosively flammable when poorly maintained or situated on south-facing slopes, in windy areas, or poor soils (Moritz and Svihra 1998). In general, most vegetation within the project site is not regularly irrigated or maintained and exists in natural or open space settings.

Forest pests, such as insects, fungi, other microbes, and vertebrates, are a natural component of California forests and plant communities. Populations of pests are dynamic and fluctuate in response to climatic and environmental changes such as drought, stand density, fire, and other site disturbances. Healthy, vigorous trees are typically able to withstand pest attacks when pest populations are at endemic levels. When stressors exist in forests (e.g., overstocking, shading, drought), tree vigor is reduced and tree susceptibility to pest attacks and infestations increases. Diseases and pests can result in tree decline and mortality. These diseases/pests can contribute to wildfire hazards by increasing dead surface fuel loads.

2.1.5 Vegetation Dynamics (Fuel Loads)

The vegetation described above translates to fuel models used for fire behavior modeling, discussed in Section 3 of this Fire and Fuel Modification Assessment. Variations in vegetative cover type and species composition have a direct effect on fire behavior. Some plant communities and their associated plant species have increased flammability based on plant physiology (resin content), biological function (flowering, retention of dead plant material), physical structure (bark thickness, leaf size, branching patterns), and overall fuel loading. For example, the native shrub species that compose the plant communities onsite are considered to exhibit higher potential hazards (higher intensity heat and flame length) than grass-dominated plant communities (fast-moving, but lower

intensity) if ignition occurred. The corresponding fuel models for each of these vegetation types are designed to capture these differences.

As described, vegetation plays a significant role in fire behavior, and is an important component of the fire behavior models discussed in this report. A critical factor to consider is the dynamic nature of vegetation communities. Fire presence and absence at varying cycles or regimes disrupts plant succession, setting plant communities to an earlier state where less fuel is present for a period of time as the plant community begins its succession again. In summary, high-frequency fires tend to convert shrublands to grasslands or maintain grasslands, and fire exclusion tends to convert grasslands to shrublands over time as shrubs sprout back or establish and are not disturbed by repeated fires. In general, biomass and associated fuel loading will increase over time, if disturbance (e.g., fire, grazing, or farming) or fuel reduction efforts are not diligently implemented. It is possible to alter successional pathways for varying plant communities through manual alteration.

2.1.6 Fire History

Fire history data provides valuable information regarding fire spread, fire frequency, ignition sources, and vegetation/fuel mosaics across a given landscape. 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 a site, and how a fire may spread. Fire history represented in this assessment uses the Fire and Resource Assessment Program (FRAP) database. FRAP summarizes fire perimeter data from as far back as the late 1800s to the present; however, the data only includes fires over 10 acres in size and has incomplete perimeter data, especially for the first half of the 20th century (Syphard and Keeley 2016). Regardless, the data does provide a summary of recorded fires and can be used to show whether large fires have occurred in the project area, which indicates whether fires may be possible in the future. According to available data from the CAL FIRE in the FRAP database, and illustrated in Figure 2, one (1) fire has burned within a 5-mile radius of the project site, which was onsite, since the beginning of the historical fire data record. The singular wildfire occurred in 2010 and burned approximately 7.5 acres in the southern portion of the project site.

2.1.7 Wildfire Types and Potential Fire Behavior

Several wildfire types exist, as summarized below.

- **Ground Fire:** A fire burning on the ground or through understory vegetation and not reaching into the canopy (NWCG 2022).
- **Surface Fire:** A surface burning fire with low flame lengths (usually less than 3 feet) that does not result in significant movement into understory or overstory vegetation (NWCG 2022).
- **Crown Fire:** A fire that has burned upward from the ground and into the tree canopy. There are three types of crown fires:
  - ***Passive Crown Fire*:** A crown fire in which individual or small groups of trees torch out, but solid flaming in the canopy cannot be maintained except for short periods. Passive crown fires encompass a wide range of crown fire behavior, from the occasional torching of an isolated tree to a nearly active crown fire. Also called torching (Scott and Reinhardt 2001).
  - ***Active Crown Fire*:** A crown fire in which the entire fuel complex becomes involved, but the crowning phase remains dependent on heat released from the surface fuels for continued spread. Also called running and continuous crown fire (Scott and Reinhardt 2001).

- ***Independent Crown Fire:*** A crown fire that spreads without the aid of a supporting surface fire (Scott and Reinhardt 2001).

Another component of fire behavior is spotting—the transfer of firebrands (embers) ahead of a fire front—which can ignite smaller vegetation fires (NWCG 2022). These smaller fires can burn independently or merge with the primary fire. Spotting can also result in structural ignitions when transported embers reach a receptive fuel bed (e.g., combustible roofing), especially in wind-driven fires, such as those occurring during Santa Ana wind events in the foothills of the San Gabriel mountains. Structure fires, as well as vegetation-fueled fires, can generate firebrands. Additionally, landscape features like ridges can dramatically affect fire behavior by changing prevailing wind patterns, funneling air, and increasing wind speeds, thereby intensifying fire behavior.

Each of the fire types mentioned above have the potential to occur within the project site. Fire behavior is how a wildland fire reacts to weather, fuels, and topography. The difficulty of controlling and suppressing a wildfire is typically determined by fire behavior characteristics, such as rate of spread, fireline intensity, torching, crowning, spotting, fire persistence, and resistance to control (NWCG 2022). Extreme fire behavior is that which precludes methods of direct control (e.g., flame lengths 8 feet and greater), behaves unpredictably and erratically, and typically involves high spread rates, crowning and spotting, the presence of fire whirls, and a strong convective column.

Fire behavior characteristics are an essential component in understanding fire risk. Flame length—the length of the flame of a spreading surface fire within the flaming front—is measured from midway in the active flaming combustion zone to the average tip of the flames (Andrews et al. 2008). Although it is a somewhat subjective and nonscientific measure of fire behavior, it is imperative to fireline personnel when evaluating fireline intensity and is worth considering as a vital wildfire variable (Rothermel 1993). Fireline intensity is a measure of heat output from the flaming front and affects the potential for a surface fire to transition to a crown fire. Table 2 presents an interpretation of flame length and its relationship to fire suppression efforts.

Table 2. Fire Behavior Interpretation

Flame Length	Fireline Intensity	Interpretations
Under 4 feet	Under 100 BTU/ft/s	Fires can generally be attacked at the head or flanks by persons using hand tools. Hand line should hold the fire.
4 feet to 8 feet	100–500 BTU/ft/s	Fires are too intense for a direct attack on the head by persons using hand tools. Hand line cannot be relied on to hold the fire. Equipment such as dozers, pumpers, and retardant aircraft can be effective.
8 feet to 11 feet	500–1,000 BTU/ft/s	Fires may present serious control problems—torching out, crowning, and spotting. Control efforts at the fire head will probably be ineffective.
Over 11 feet	Over 1,000 BTU/ft/s	Crowning, spotting, and major fire runs are probable. Control efforts at the head of fire are ineffective.

Source: Roussopoulos and Johnson 1975.
Note: BTU/ft/s = British thermal units per foot per second.

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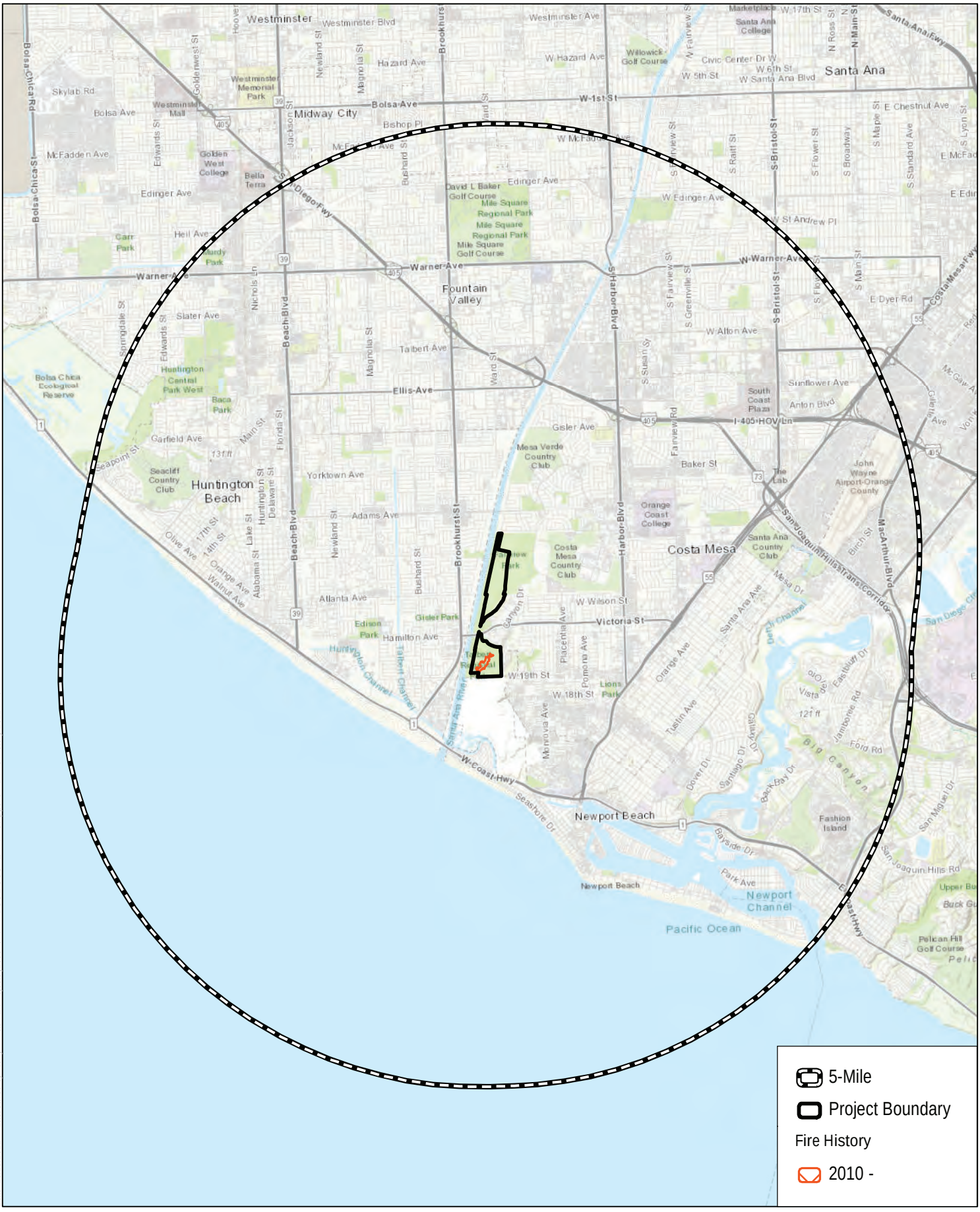
5-Mile
Project Boundary
Fire History
2010 -
Westminster
Midway City
Santa Ana
Fountain Valley
Huntington Beach
Costa Mesa
Newport Beach
Pacific Ocean
Bolsa Ave
Warner Ave
Ellis Ave
Talbert Ave
Gisler Ave
Victoria St
W Wilson St
W 19th St
Adams Ave
Yorktown Ave
Atlanta Ave
Hamilton Ave
Edinger Ave
Hazard Ave
W 1st St
W 17th St
W 5th St
W 6th St
W Santa Ana Blvd
Civic Center Dr W
Beach Blvd
Brookhurst St
Harbor Blvd
Newland St
Magnolia St
Bushard St
Ward St
Fairview Rd
Bristol St
Main St
Baker St
Sunflower Ave
Anton Blvd
W Alton Ave
E Dyer Rd
W Warner Ave
W Edinger Ave
Bolsa Chica Rd
McFadden Ave
Slater Ave
Garfield Ave
Seapoint St
Orange Ave
Walnut Ave
Olive Ave
17th St
14th St
Lake St
Alabama St
Huntington St
Delaware St
Florida St
Springdale St
Edwards St
Nichols Ln
Jackson St
Golden West College
Westminster Mall
Westminster Memorial Park
Bella Terra
Carr Park
Heil Ave
Murdy Park
Huntington Central Park West
Baca Park
Bolsa Chica Ecological Reserve
Seacliff Country Club
Edison Park
Gisler Park
Talbert Regional Park
Mesa Verde Country Club
Costa Mesa Country Club
Santa Ana Country Club
South Coast Plaza
Orange Coast College
John Wayne Airport-Orange County
The Lab
Fashion Island
Lions Park
Willowick Golf Course
David L Baker Golf Course
Mile Square Regional Park
Mile Square Golf Course
Santa Ana College
Marketplace
Bishop Pl
W McFadden Ave
S Raitt St
S Flower St
S Broadway
S Maple St
E Chestnut Ave
S Standard Ave
S Lyon St
W St Andrew Pl
S Fairview St
S Greenville St
S Harbor Blvd
S Susan Ln
S Main St
Costa Mesa Fwy
Santa Ana Fwy
I-405 HOV Ln
San Joaquin Hills Transportation Corridor
MacArthur Blvd
Birch St
Mesa Dr
Santa Ana Ave
Placentia Ave
Pomona Ave
Tustin Ave
Orange Ave
Jamboree Rd
Eastbluff Dr
Ford Rd
Big Canyon
Back Bay Dr
Dover Dr
Santiago Dr
Bayside Dr
San Miguel Dr
San Joaquin Hills Rd
Park Ave
Newport Channel
Pelican Hill Golf Course
Upper Buck Gully
Canyon Dr
Placentia Ave
Monrovia Ave
Talbert Channel
Huntington Harbour Channel
Santa Ana River
San Diego Creek
Delhi Channel
W Coast Hwy
Seashore Dr
San Diego Fwy
Newport Beach
Golden West College
Bolsa Chica St
Skylab Rd
Bolsa Ave
Edinger Ave
Heil Ave
Warner Ave
Slater Ave
Talbert Ave
Ellis Ave
Gisler Ave
Garfield Ave
Yorktown Ave
Adams Ave
Atlanta Ave
Hamilton Ave
Victoria St
W Wilson St
W 19th St
W 18th St

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3 Anticipated Fire Behavior

3.1 Fire Behavior Modeling

In 2013, Dudek conducted extensive fire behavior modeling for the Nature Reserve of Orange County, which included the project site (Dudek 2013). Since the modeling was completed, there have been no fires on the project site and the vegetation onsite has not changed significantly since that time; therefore, for the purpose of this analysis, the modeling completed in 2013 will be utilized to determine fire risk and provide recommendations for vegetation management within the project site.

Fire behavior modeling was conducted to document the type and intensity of the fire that would be expected within the project site given characteristic features such as topography, vegetation, and weather. Dudek utilized BehavePlus for "point fire behavior modeling" in an effort to compare the effect of weather on expected fire behavior. Additionally, FlamMap software was used to graphically depict fire modeling results at a site-wide scale. FlamMap utilizes the same fire spread equations built into the BehavePlus software package, but allows for a geographical presentation of fire behavior outputs as it applies the calculations to each pixel in an associated Geographic Information Systems (GIS) landscape. For FlamMap modeling, extreme fall, offshore weather conditions (97thPercentile) were modeled to understand worst-case fire behavior on the project site. For the BehavePlus analysis, 50th percentile and 97th percentile weather conditions were modeled to evaluate the effect of weather on fire behavior.

3.2 Fire Model Classifications

The initial step in modeling potential fire behavior is the evaluation of vegetation and determination of appropriate fuel model assignments. In order to make reliable estimates of fire behavior, one must understand the relationship of fuels to the fire environment and be able to recognize the variations in these fuels. Natural fuels are made up of the various components of vegetation, both live and dead, that occur in a particular landscape. The type and quantity will depend upon soil, climate, geographic features, and fire history. The major fuel groups of grass, shrub, trees, and slash are defined by their constituent types and quantities of litter and duff layers, dead woody material, grasses and forbs, shrubs, regeneration, and trees. Fire behavior can be predicted largely by analyzing the characteristics of these fuels. Fire behavior is affected by seven principal fuel characteristics: fuel loading, size and shape, compactness, horizontal continuity, vertical arrangement, moisture content, and chemical properties.

The seven fuel characteristics help define the 13 standard fire behavior fuel models (Anderson1982) and the more recent custom fuel models developed for Southern California (Weise and Regelbrugge 1997). According to the model classifications, fuel models used in BehavePlus have been classified into four groups, based upon fuel loading (tons/acre), fuel height, and surface-to-volume ratio. Observation of the fuels in the field (on site) determines which fuel models should be applied in modeling efforts. The following describes the distribution of fuel models among general vegetation types for the standard 13 fuel models and the custom Southern California fuel models:

- Grasses–Fuel Models 1 through 3
- Brush –Fuel Models 4 through 7, SCAL 14 through 18

- Timber–Fuel Models 8 through 10
- Logging slash–Fuel Models 11 through 13.

In addition, these fuel characteristics were utilized in the recent development of 40 new fire behavior fuel models (Scott and Burgan 2005) developed for use in the BehavePlus and FlamMap modeling systems. These new models attempt to improve the accuracy of the 13 standard fuel models outside of severe fire season conditions, and to allow for the simulation off fuel treatment prescriptions. The following describes the distribution of fuel models among general vegetation types for the 40 new fuel models:

- Non-burnable –Models NB1, NB2, NB3, NB8, NB9
- Grass–Models GR1 through GR9
- Grass shrub –Models GS1 through GS4
- Shrub –Models SH1 through SH9
- Timber understory –Models TU1 through TU5
- Timber litter–Models TL1 through TL9
- Slash blowdown –Models SB1 through SB4.

Any resource or fire management decision regarding the use of prescribed fire and/or wildland fire suppression tactic must be based upon authenticated fire behavior expectations and established fuel models. Table 3 contains descriptions of the two burnable fuel models found on the project site.

Table 3. Fuel Model Characteristics

Fuel Model	Description	Vegetation Type	Tons/acre; Btu/lb	Fuel Bed Depth (Feet)
1	Short grasses	Grassland, disturbed areas, agriculture, vernal pools	0.7 tons/acre; 8,000 Btu/lb	1.0 ft.
9	Hardwood litter	Riparian, woodland, and forest	3.5 tons/acre; 8,000 Btu/lb	0.2 ft.

Table 4 summarizes the weather and wind input variables used in the BehavePlus modeling process.

Table 4. Fuel Moisture and Wind Inputs

Model Variable	Summer Weather Condition (50th Percentile)	Peak Fall Weather Condition (97th Percentile)
1 hr. Moisture	8%	2%
10 hr. Moisture	10%	4%
100 hr. Moisture	17%	9%
Live Herbaceous Moisture	60%	30%
Live Woody Moisture	90%	59%
20-foot Wind Speed (mph)	9 mph	19 mph
Wind Directions from north (degrees)	225	45
Wind adjustment factor	0.2	0.2
Slope (uphill)	20%	20%

3.3 Fire Behavior Modeling Results

FLAM Map Fire Behavior Modeling Results

One output grid file was generated for each FlamMap run and includes representations of flame length (feet). The fire behavior analysis results for the project site vary depending on fuel type. As FlamMap utilizes site-specific digital terrain data (including slope, vegetation, aspect, and elevation data) slight variations in predicted flame length values can be observed based on fluctuations of these attributes across the landscape. As presented, wildfire behavior in each of the fuel types varies, based on differing weather conditions.

Given the climatic, vegetation, and topographic characteristics along with the fire behavior modeling results and fire history discussed herein, the project site is expected to be receptive to wildfire starting on, burning onto, or spotting onsite. Under extreme weather conditions, fire can move rapidly through the project site's fuels. The most common type of fire anticipated is a fire burning onto the project site from one of several nearby highways or roadways and fanned by off shore Santa Ana winds. Worst-case modeled flame lengths were calculated at up to 11 feet within the project site.

It should be noted that the modeling results presented herein depict values based on inputs to the FlamMap software, which are held constant for each cell in the analysis landscape. Changes in wind, weather, or pockets of different fuel types are not accounted for in this analysis. Model results should be used as a basis for planning only, as actual fire behavior for a given location will be affected by many factors, including unique weather patterns, small-scale topographic variations, or changing vegetation patterns.

BehavePlus Fire Behavior Modeling Results

Fire behavior during 50th percentile weather conditions was modeled with a 20-foot wind speed of 9 mph for both the project site and slope gradient of 20%. All other weather input variables are identified in Table 4. BehavePlus modeling evaluated the following fire behavior variables: spread rate (mph), fireline intensity (btu/feet/second), and flame length (feet). Table 5 summarizes the modeling results for 50th percentile weather conditions within the project site.

Table 5. Modeled Fire Behavior 50th Percentile Weather Conditions

Fuel Type	Fuel Model	Spread Rate (mph)	Fireline Intensity (btu/ft/s)	Flame Length (Feet)
Grass	1	0.24	29	2.1
Riparian/Woodland	9	0.03	15	1.6

Fire behavior during 97th percentile weather conditions was modeled with a 19 mph for the project site and a slope gradient of 20% as representing the typical conditions. All other weather input variables are identified in Table 2. BehavePlus modeling evaluated the following fire behavior variables: spread rate (mph), fireline intensity (btu/ft/s), and flame length (feet). Table 6 summarizes the modeling results for 97th percentile weather conditions within the Project site.

Table 6. Modeled Fire Behavior 97th Percentile Weather Conditions

Fuel Type	Fuel Model	Spread Rate (mph)	Fireline Intensity (btu/ft/s)	Flame Length (Feet)
Grass	1	1.15	196	5.1
Riparian/Woodland	9	0.12	87	3.5

3.4 Project Area Fire Risk Assessment

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 shrubland and grassland, like those found on and in the vicinity of the project site. Wildfire in this Mediterranean-type ecosystem ultimately affects the structure and functions of vegetation communities (Keeley 1984) and will continue to have a substantial and recurring role (Keeley and Fotheringham 2003). 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 (Keeley 2004) with high winds (Santa Ana) occurring during autumn after a six-month drought period each year. Based on this research, the anticipated growing population expanding into WUI areas, and the regions' fire history, it can be anticipated that periodic wildfires may start on, burn onto, or spot onsite. The most common type of fire anticipated in the vicinity of the project area is a wind-driven fire from the north/northeast, moving through the grassland and shrubland on lands in the vicinity of the project site.

Given the climatic, vegetative, topographic characteristics, and local fire history of the area, the project site is determined to be subject to periodic wildfires that may start on, burn toward, or spot onsite. The potential for off-site wildfire encroaching on, or showering embers onsite is considered low.

4 Fire Hazard Reduction and Suppression

A high priority for reducing the effects of wildfire on the project site is reduction of human-caused ignitions. Reducing human-caused ignition rates would reduce the potential for wildfire encroachment and spread throughout the project site. Prioritizing management of ignitions is predicted to be more effective than widespread fuel reduction efforts in reducing the area burned by wildfire. A comparison of five landscape fire models in a standardized modeling experiment evaluated the importance of fuel management, ignition management, and weather on total area burned and the amount of burned edge area adjacent to a fire prone landscape (Cary et al. 2009). The researchers found weather and ignition management were more important than fuel management in determining the total area burned under each of the five landscape models. However, one model found that fuel management at the burned edge area was important. This analysis supports after fire assessments in Orange, San Diego, Los Angeles, and Riverside Counties, along with other California locations that indicate that fuel management strategies, particularly in shrublands, may not be effective at reducing risk in comparison to the effects of reducing ignitions, particularly under Red Flag Warning weather conditions. Other analyses have concluded that manipulating fuel loads in southern California shrublands is unlikely to be effective in preventing large wind driven wildfires since they burn through old and new fuels (Moritz et al. 2004, Keane et al. 2008, Keeley and Zedler 2009).

Because natural ignition sources (i.e., lighting) are relatively absent from the project site, the human-caused ignitions of all types are the highest risk. With the projected population growth in Orange County over the next 50 years, preventing human-caused ignitions of wildfire is considered the most important means of limiting wildfire and protecting the project site and surrounding communities. Further, the fire behavior modeling results presented herein, which are consistent with other large, extreme fire weather wildfire events (including the Santiago Fire), indicate that firefighting is limited in terms of available options and overall affect. This elevates the need to focus on preventing ignition and reducing fire spread during normal weather conditions.

4.1 Wildfire Ignition Reduction Recommendations

Successful long-term fire management requires pre-planning, consistent application of principles known to reduce fire hazard, and utilization of fire prevention techniques and strategies. Ignition sources and fire spread patterns are important components of understanding wildfire behavior and implementing practices aimed at preventing wildfires. In addition, high-value resource areas must be identified, and then appropriate wildfire ignition/wildfire spread reduction practices must be implemented and maintained. The highest risk for wildfire ignition within the project site is along roadways, areas adjacent to residential/urban areas, acts of arson, on site recreational activities, and powerlines. Recommendations for fuel reduction include:

Invasive Species Removal/Restoration

Targeted non-native plant removal focuses on high value habitats including waterways as well as areas adjacent fuel modification zones. Targeted non-native plant removal may include species such as arundo (*Arundo donax*), salt cedar (*Tamarix tamarix*), eucalyptus (*Eucalyptus* sp.), artichoke thistle (*Cynara cardunculus*), castor bean (Ricinus communis), amongst many others. The selection of the appropriate fuel reduction methodology should be determined with consideration of many variables, including the particular species, time of year, severity of fuel loading/exotic infestation, the presence of sensitive resources, the degree of intermixing of invasive species with sensitive native habitats, access, and proximity to surface water. The U.S. Army Corps of Engineers and USFWS

should be consulted regarding potential permitting requirements if invasive removal will occur in waterways or wetlands under their jurisdiction.

Additionally, non-native grasses, such as those found on the project site, are perpetuated by frequent fires as the fires remove the recovering shrub cover that develops overtime. In the absence of fire, grassland will proceed along successional pathways toward a climax condition of shrub cover in Southern California landscapes. However, the existence of non-native grasses, which readily populate a burned site, facilitate repeated fires due to their early season drying and flashy nature, that is, they are much easier to ignite than native shrubs. Because they are receptive to ignition for a longer period and are more readily ignited, the tendency for these areas to burn repeatedly is enhanced and the successional path remains disrupted and in an early successional period. Active restoring of non-native landscapes to shrub cover may be necessary in some areas and may need to be accomplished in conjunction with additional hazard reduction measures that help reduce the likelihood of ignition.

Roadside Fuel Modification

Studies (IRC 2008) indicate that roadways are one of the most significant sources of ignitions within WUI areas. As such, roadside vegetation management and maintenance is critical to reducing wildfires. Roadway fuel modification efforts occur on most of the public roadways throughout the County. This maintenance must continue to be performed through mowing operations that remove dry, non-native fuels during the spring annually. Sparks generated by dragged chains, overheated/failed brakes, exploding catalytic converters, tossed cigarette, or other roadway/vehicle related sources may be contained in the road shoulder area or first few feet off the road that usually includes no vegetation (on primary roadways) or they may bounce into the extended area adjacent roadways where vegetation occurs. Depending on the fuel bed that hot material lands, it may ignite a vegetation fire which could spread under the right conditions. Non-native fuels, primarily grasses, cure during the spring and early summer and are receptive to ignitions. Native fuels generally take longer to dry out and reach a point where they readily ignite. Removing the flashy grass fuels and other non-native species from the areas adjacent roadways provides significant reduction in ignitions. The existing maintenance area along roadways is roughly 10 to 20 feet wide. The area mowed should be as wide as 20 feet, where possible. Where 20 feet cannot be provided, due to terrain or existence of native, lower flammability shrub species, roadside fuel modification should be as wide as possible without impacting native vegetation unless it is dead, then it should be removed.

Red Flag Warning Days

The highest ranked potential hazard reduction measure is restricting access during Red Flag Warning weather. This measure is perceived to have a very low financial cost (keep gates locked, patrols monitor trail heads, erect signs indicating no use and potential for fines if unauthorized use occurs) and low cost in terms of lost recreational opportunities, especially considering it is unlikely to realize more than approximately 20 Red Flag Warning days per year. Due to the low cost and significant potential for removing potential ignition sources on days when fire ignition and spread is most likely, this measure is considered to include at least a moderate and likely a high leverage level. Removing normal recreational users during this period also makes it easier to identify and deter potential arsonists who may shy from the area due to patrols.

Additionally, during Red Flag Warning days, fire ignition potential dramatically increases, and the probability of a vegetation fire associated with any type of road or road right-of-way-project, including heat or spark sources (guard rail maintenance, road fuel modification maintenance, sign installations, paving, etc.) is enhanced. Research indicates that California Department of Transportation (CALTRANS) and the Transportation Corridor Agency currently include protocols for suspending potential fire producing activities during Red Flag Warning conditions.

However, there are other agencies who are responsible for roads, trails, and green spaces adjacent to the project site that do not include RFW weather protocols. One such identified agency in Orange County Public Works. It is recommended that all entities responsible for maintenance are educated on the importance of fire weather restrictions during Red Flag Warning days and the potential liabilities associated with fire ignitions.

Trail Head/Entry Fire Safety Signage

All trailheads within the project site should provide signage regarding fire prevention, fire safety, and the importance of avoiding activities that can lead to vegetation fires. There has not been a high incidence of wildland fires originating from the project site's recreational users, but there is a correlation with outdoor users and wildfires. For example, a visiting hiker not familiar with the potential for vegetation ignitions in dry grass may decide to smoke a cigarette in a vulnerable area that can lead to a wildfire. There are many other examples of humans causing fires in wildland areas, and these potential ignition sources can be positively affected with clear, consistent messages. It is recommended that language indicating the potential for firefighting cost recovery from the individual may occur for fire started by Park users.

Electrical Transmission Line Fire Prevention Measures

This potential hazard reduction measure focuses on reducing the potential ignition of vegetative fuels from electrical transmission lines. Electrical transmission lines and associated structures can start fires in a number of ways, including the following:

- Uncleared vegetation, especially trees, coming into contact with conductors;
- Sparks (from exploding hardware such as transformers and capacitors) coming into contact with vegetation;
- Wind-blown debris coming into contact with hardware such as transformers and conductors;
- Conductor-to-conductor contact;
- Wood transmission poles blown down by high winds;
- Dust or dirt buildup on power line hardware;
- Aircraft or helicopter, or attached features such as fire-fighting water buckets, coming into contact with power line hardware and support structures;
- Wildlife coming into contact with power line hardware or transmission line.

Southern California Edison (SCE) is responsible for electrical transmission lines on and adjacent to the project site. The NROC should coordinate with SCE on planned maintenance and upgrades/retrofits of equipment. Among the types of activities that should be considered high priority are replacement of wood poles with steel, replacing and/or repairing aging equipment on a more frequent timeline, providing raptor/bird protection retrofits, and increasing the number of patrols along the right-of-way to increase the probability that a potential issue is detected early.

SCE currently follows RFW restrictions, suspending all non-essential work in wildland areas during high fire hazard conditions. They also require construction related fire prevention activities including water truck on site, educational training, no smoking outside vehicle, etc., that is mandated for all contractors.

Vegetation line clearance occurs on an as-needed basis that is driven by species growth characteristics and size of distribution line. This primarily occurs outside of the project site, but vegetation ignitions could easily result in spread onto the project site. Coordination should focus initially on identifying all electrical infrastructure onsite and then

identifying where the highest priority maintenance needs are and implementing a program to mitigate these issues. Funding for this potential hazard reduction measure would be provided by SCE as part of their operating budget.

Mastication

Mastication is a term used to generally describe the process of using mechanical means, usually a skid-steer mounted drum, to cut and grind vegetation for fuel reduction purposes. Mastication is a relatively fast method of fuel reduction with roughly one treated acre per hour possible. The process leaves behind biomass as mulch on the ground and mastication can include selective removal of above ground components to bare earth or to any other desired height. This method of fuel reduction is best used where non-native shrubs and small trees require removal.

Targeted Herbicide Use for Fuel Reduction

Chemical means to control fuels/non-native plants is an effective method, but one that has a negative connotation, potential toxicity for humans and wildlife, and can affect water quality and environmental conditions. Focused chemical selection and application minimizes the detrimental effects and makes the use of chemicals, such as glyphosate and other selective chemicals, a feasible alternative. The application of herbicides to control target invasive species may be used on its own or as a secondary treatment following manual or mechanical removal for controlling sprout growth and regeneration. Herbicide application is recommended following removal of invasive tree species and other perennial species with the ability to regenerate from root fragments when removal of all plant material is not feasible. Herbicide use should be limited to localized applications rather than foliar applications to eliminate the possibility of drift and impacts to neighboring desirable species. A wide range of herbicides are available for such types of treatment. Herbicide labels and material safety data sheets (MSDS) list susceptible target plant species and provide proper direction in the use and handling of the products. Herbicides should be applied by state licensed applicators.

Tree Crown Raising

Crown raising is simply removing branches from the bottom of the crown of a tree to provide clearance for any of a variety of reasons including hikers (trailside trees), vehicles (maintenance or fire engines), or for increasing the distance between ground fire and the tree crown. Crown raising is commonly used within fuel modification areas as a means to protect the trees from fire laddering into the tree crown and producing intense heat, tall flames, and large quantities of embers. As a strategy, oaks, sycamores, and potentially Tecate cypress could be individually treated as part of an overall “point protection” measure aimed at reducing the likelihood that a typical fire (non wind-driven fire) would cause mortality. This method could be particularly useful for very high value trees/stands where wildfire is not desirable for stand health and maturation purposes.

Fire Adapted Communities Education Campaign

Private property owners in the interface or intermix (located adjacent to open space) should be encouraged to play an active role in reducing the potential fire hazard in the vicinity of the project site. As such, a concerted effort to reach property owners who are situated in locations that may be affected by wildfire adjacent to open space areas or whose properties and actions may serve as ignition sources. The Fire Adapted Communities Educational material can be customized for these homeowners to include discussion of the importance of managing fire in the project area. Additional information is available from Orange County Fire Authority (OCFA), the Firewise organization, CAL FIRE (http://www.fire.ca.gov), Fire Safe Councils (http://www.fire safecouncil.org) and other web sources.

The educational campaign should also include involvement in the “We Tip” program with signage indicating telephone numbers where citizens can report criminal activity, including arson. Neighborhood Watch programs also can help provide additional eyes and ears on the ground in neighborhoods surrounding the Park, potentially leading to a reduction in ignitions and associated burned acreages.

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