

Chapter 3

Hydrology and Water Quality

Introduction

Chapter Overview

This chapter describes existing surface and groundwater hydrology and water quality in the Encinitas area and discusses the Project's potential to affect surface drainage and stream function, groundwater recharge, and water quality.

This chapter contains the following information:

- An overview of chapter preparation, including sources of baseline information and an explanation of the methods used to analyze impacts
- A description of existing conditions relative to hydrology, water quality, and related hazards (flood, tsunami, and seiche) in the Project area
- An overview of laws, ordinances, and policies relevant to hydrologic and water quality resources
- Analysis of potential impacts on surface drainage, groundwater recharge, water quality, and related hazards under the proposed Project, the 2 action alternatives, and the No Project/No Action Alternative, including approaches to avoid or reduce (mitigate) potentially significant adverse impacts

As described under *Environmental Commitments* in Chapter 2, the Project would incorporate commitments to protect water quality and habitat during construction and into the future once the new access is in use. It is also being designed to avoid floodplain and channel modifications with the potential to reduce flood conveyance capacity, would rely on permeable, plantable surface treatments that would not impede groundwater recharge, and would not consume groundwater over the short or long term. As a result, although the Project would be located in highly sensitive habitat along Escondido Creek and San Elijo Lagoon, its potential to affect hydrologic and water quality resources is very limited, and no significant impacts are identified.

In addition, the Project would have substantial long-term term benefits to water quality in the Creek and Lagoon by enabling the City to reinstate its program of inspections, cleaning, and maintenance along the full length of the OTS between El Camino del Norte and Manchester Avenue, where this facility is currently identified as at-risk due to manhole degradation, I&I, and sediment accumulation within the line.

How this Chapter Was Prepared

Assessment of Existing Conditions

Information on hydrology and water quality came from the following sources:

- The San Elijo Lagoon Conservancy's (2005) Escondido Creek Action Plan
- Additional Escondido Creek watershed studies (Conservation Biology Institute 2010)

- The current Basin Plan for the San Diego region (San Diego Regional Water Quality Control Board 2012)
- The State Water Resources Control Board's current "Section 303[d] list" of impaired surface water bodies (State Water Resources Control Board 2010)
- City of Encinitas *Current Conditions Report on Hydrology and Water Quality* (City of Encinitas 2010)
- The current edition of the California Department of Water Resources' Bulletin 118, *California's Groundwater* (California Department of Water Resources 2004)

Impact Analysis Methods

Impacts were analyzed qualitatively based on the current understanding of Project design and the equipment activities and equipment needed for project construction and operation.

The Project would result in a significant impact under CEQA if it would lead to any of the following.

- Violation of any applicable water quality standard
- Substantial degradation of water quality, such that beneficial uses are or may be compromised
- Impedance of flows within the 100-year flood hazard area; significant (more than 1-foot) increase in the 100-year flood elevation
- Redirection of flows within the 100-year flood hazard area, such that offsite flood risks are increased
- Increased runoff on- or offsite
- Substantial erosion or siltation on- or offsite
- Interference with groundwater recharge
- Depletion of groundwater supplies
- Exposure of people or structures to substantial risk related to tsunamis, seiche, mudflow, or dam failure-related flooding

Any of these outcomes would also represent an adverse effect under NEPA.

Existing Conditions

Climate and Precipitation

The City enjoys a semi-arid Mediterranean-type coastal climate with generally mild temperatures throughout the year. Summer high temperatures in the City average about 74° Fahrenheit and winter low temperatures average about 49° Fahrenheit (U.S. Department of Commerce 2010). Average annual precipitation in the City is about 9.75 inches, with most rainfall occurring between November and April (California Department of Water Resources 2010). Soils in coastal portions of the City receive additional moisture from fog along the coastline (City of Encinitas 2010).

Surface Water Drainage

The Project alignment is located in the Escondido Creek/San Elijo Lagoon drainage, within the Escondido Creek Hydrological Area (HA), San Elijo Subunit (HAS 904.61) of the Carlsbad Hydrological Unit (HU) (California Department of Water Resources 2004).

The Escondido Creek Watershed is the largest and also the most geographically complex and diverse watershed within the Carlsbad Hydrological Unit (San Elijo Lagoon Conservancy 2005) encompassing some 85 square miles of agricultural and developed land with elevations ranging from 2,400 feet above mean sea level (msl) in headwaters regions to sea level at the mouth of the San Elijo Lagoon (see Figure 3-1). Escondido Creek itself originates at the confluence of two headwaters streams draining from Paradise Mountain and Bear Valley northeast of the City of Escondido, and extends almost 30 miles as it flows through the City of Escondido, through Harmony Grove and the Elfin Forest, and finally discharges into the Pacific Ocean via San Elijo Lagoon in Encinitas (San Elijo Lagoon Conservancy 2005, Conservation Biology Institute 2010). Within the Lagoon, freshwater inflow meets saline tidal waters, and the narrow creek corridor broadens to a multi-channel system with wide expanses of tidal marshlands. Principal tributaries of Escondido Creek include Reidy Creek, Copper Creek, Eden Creek, Meisha Creek, Questhaven Creek, and—immediately upstream from the Project alignment—La Orilla Creek (San Elijo Lagoon Conservancy 2005, Conservation Biology Institute 2010).

Historically, the Escondido Creek Watershed was an ephemeral (seasonal) system, and most of the tributaries remain ephemeral today. However, the Escondido Creek mainstem now carries year-round flow, and is considered a perennial stream. This is because the increasing extent of impermeable paved or hardscaped surface associated with expanding development in the watershed has led to an overall increase in runoff. As of 1978, flow in the Creek was estimated to average about 6 million gallons per day (mgd). By the early 2000s, average flows had increased to about 13 mgd daily with a peak flow of 900 mgd (Stoney-Miller Consultants 2013).

Flows in Escondido Creek are controlled by dams at Lake Wohlford and Dixon Lake (Stoney-Miller Consultants 2013). Portions of the channel have also been modified for flood control, notably upstream within the City of Escondido, where the engineered channel was designed to convey flows up to and including the discharge associated with the 500-year flood¹.

Groundwater

The Project alignment and surrounding vicinity situated above a portion of the San Elijo Valley Groundwater Basin (City of Encinitas 2010). Within the basin, geologically Recent alluvial sediments deposited in the Escondido Creek–San Elijo Lagoon system overlie older sedimentary formations of marine origin. The primary potable water aquifer resides in the young alluvial units and is unconfined, receiving recharge primarily from surface flows in the Creek, supplemented by underflow from older marine sedimentary units (Stoney-Miller Consultants 2013, California Department of Water Resources 2004). There may also be some aquifer potential associated with brackish water in the portions of the older marine sequence (Stoney-Miller Consultants 2013) but this is currently unexploited.

¹ The 500-year flood is defined as the flood event that has a 0.2% chance of occurring in any given year. This is a larger and more infrequent event than the 100-year flood (1% chance of occurrence in any given year) commonly used as a benchmark for flood protection planning.

Water Quality and Beneficial Uses

Beneficial uses refers to the uses a water body serves relative to the survival or wellbeing of humans, plants, and wildlife (San Diego Regional Water Quality Control Board 2012). As discussed below in *Regulatory Setting*, identifying beneficial uses for a water body allows the RWQCB to establish water quality objectives for use in regulating pollutant levels such that water quality is preserved and each water body’s specific beneficial uses can be maintained.

Table 3-1 shows the beneficial uses identified for Escondido Creek, San Elijo Lagoon, and local groundwater in the current San Diego area Basin Plan. *Existing beneficial uses* refer to uses that have been documented as occurring since 1975, or those for which a water body provides a quality and quantity of water suitable to allow the use to be attained. *Potential beneficial uses* include those that are planned, proposed, desired, or designated as a goal by the RWQCB (San Diego Regional Water Quality Board 2012).

Table 3-1: Beneficial Uses for Project Area Waters

Water Body		Beneficial Uses		
Escondido Creek in Project vicinity	Existing:	Municipal and domestic supply		
		Agricultural supply		
		Contact water recreation		
		Non-contact water recreation		
		Preservation of biological habitats of special significance		
		Warm freshwater habitat		
		Cold freshwater habitat		
		Wildlife habitat		
		San Elijo Lagoon	Potential:	Industrial service supply
			Existing:	Contact water recreation
San Elijo Lagoon	Existing:	Non-contact water recreation		
		Preservation of biological habitats of special significance		
		Estuarine habitat		
		Wildlife habitat		
		Rare, threatened, or endangered species		
		Marine habitat		
		Migration of aquatic organisms		
		Spawning, reproduction, and/or early development (of marine fish and/or cold freshwater fish)		
		Groundwater, in Project vicinity	Existing:	Agricultural supply
				Industrial service supply
Potential	Municipal and domestic supply			

Source: San Diego Regional Water Quality Control Board 2012

Water quality in Escondido Creek and San Elijo Lagoon reflects the influence of surrounding urban/suburban and agricultural uses; both the Creek and the Lagoon are identified on the federal Clean Water Act “Section 303[d]” list as impaired for multiple pollutants, as Table 3-2 on the next page summarizes.

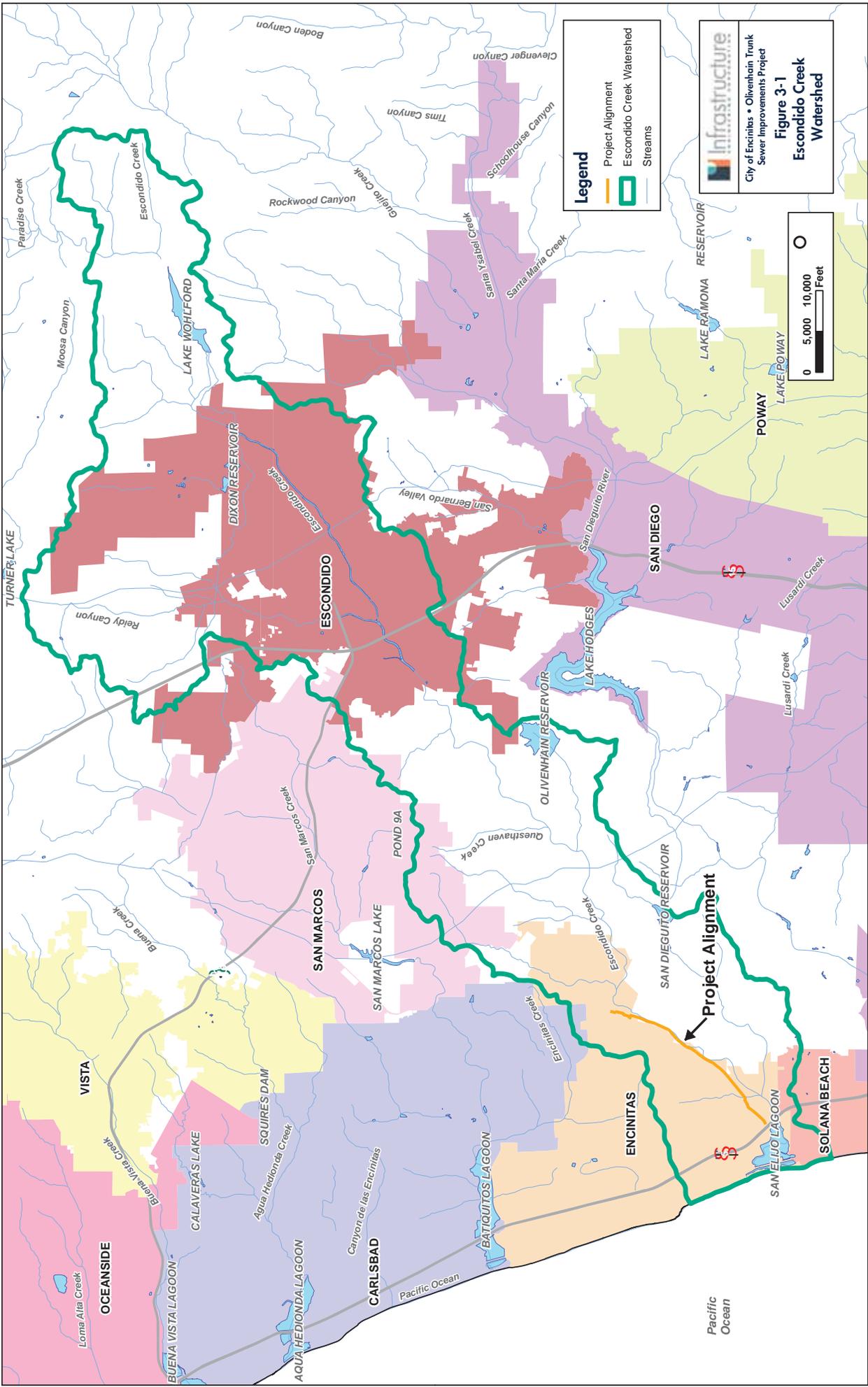


Table 3-2: Identified Water Quality Impairments in Project Area

Water Body	Pollutants
Escondido Creek	DDT
	Enterococcus
	Fecal coliform
	Manganese
	Phosphate
	Selenium
	Sulfates
	Total dissolved solids
	Total nitrogen
	Toxicity
	San Elijo Lagoon
Indicator bacteria	
Sedimentation / siltation	

Source: State Water Resources Control Board 2010

Groundwater in the Project area is generally in compliance with groundwater quality objectives established for the San Elijo Hydrologic Subarea in the current San Diego Region Basin Plan, although recently tested groundwater samples from the shallow alluvial aquifer in a well near the intersection of Manchester Avenue and I-5 exceeded the established objective for Total Dissolved Solids (Stoney-Miller Consultants 2013, San Diego Regional Water Quality Control Board 2012).

Flood Risks

The Project alignment is within several designated flood hazard areas, as follows.

- Within San Elijo Lagoon, the Project alignment located in a Floodway Area (Zone AE). Upstream, where the alignment runs adjacent to Escondido Creek, it is within a Special Flood Hazard Area Subject to 1% Annual Chance of Flood (Zone A) (Federal Emergency Management Agency 2012). Both of these designations are considered as 100-year flood hazard areas, depicted in Figure 3-2.²
- The entirety of the Project alignment is also within the Dam Failure Inundation Zones for Lake Wohlford and Dixon Dam (City of Encinitas 2010).

The southwestern portion of the Project alignment is immediately adjacent to but just outside within the coastal tsunami inundation zone designated by the California Emergency Management Agency (CalEMA) (2009). Neither seiche nor mudflow hazards have been identified for the immediate Project vicinity.

Regulatory Setting

Hydrology, watershed resources and functions, and water quality are protected at the federal, state, and local levels.

² The Federal Emergency Management Agency (FEMA) defines *base flood* as the flood that has a 1% chance of being equaled or exceeded in any given year; as identified above, this is also referred to as the 100-year flood.

The Code of Federal Regulations establishes a fundamental definition of *waters of the United States*—that is, waters under federal jurisdiction. The definition of *waters of the state of California*—i.e., waters protected and regulated by state authority—is given in Section 13050[e] of the California Water Code.

Key federal regulations protecting waters of the United States include the Clean Water Act—the primary law safeguarding water quality nationwide—and the Rivers and Harbors Act, which specifically protects navigable waters. At the state level, the Porter-Cologne Act establishes a management structure and process to protect the quality of the state’s surface and groundwater resources. Additional protection for the state’s lakes, rivers, streams, wetlands, and coastal waters comes via the California Fish and Game Code, because of their value as fish and wildlife habitat.

Numerous other laws regulate the quality of the potable water supply (federal Safe Drinking Water Act and Title 22 of the California Code of Regulations); promote proactive water management planning to ensure supply adequacy (California Groundwater Management Act, Urban Water Management Planning Act, and SB610 and 221); and protect against hazards related to development within floodplains (National Flood Insurance Act, federal Flood Disaster Protection Act, and Executive Order 11988). These additional regulations are not directly relevant to the proposed Project and are not discussed further.

Federal Regulations

Regulatory Definition of Waters of the United States

Waters of the United States refers to waters under federal jurisdiction. Per the Code of Federal Regulations (40 CFR 230.3[s]), they include the following.

- Water bodies that are, have been, or could be directly used in interstate or foreign commerce, including tidal waters
- All other bodies of water whose use, degradation, or destruction could indirectly affect interstate or foreign commerce, including waters used by interstate or foreign travelers for recreational purposes, waters that offer fisheries resources used or potentially useful in interstate or foreign commerce, and waters that are used or potentially useful to industries engaged in interstate commerce
- “Interstate waters” (waters that cross state boundaries), including interstate wetlands
- Water bodies created by impounding any of the above categories of water bodies
- Tributaries of water bodies in categories 1 through 4
- The United States territorial sea
- Wetlands adjacent to waters in categories 1 through 6

This is a fairly comprehensive definition that explicitly includes not only marine waters, rivers, lakes, and perennial and intermittent streams, but also “... mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, [and]... natural ponds” (40 CFR 230.3[s][3]). In general, groundwater is not under federal jurisdiction, but groundwater with a direct hydrologic connection to federal jurisdictional surface waters may also be considered a water of the United States.

Legend

- Existing Olivenhain Trunk Sewer
- 100-Year Floodplain

Carlsbad

LONE JACK RD

Escorido Creek

ENCINITAS BLVD

Encinitas

Unincorporated San Diego County

MANCHESTER AVE

MANCHESTER AVE

San Eljo Lagoon

Solana Beach



City of Encinitas • Olivenhain Trunk Sewer Improvements Project

Figure 3-2
100-Year Floodplain

Clean Water Act

The Clean Water Act (CWA) (33 USC §1251 *et seq.*) is the cornerstone federal law protecting the nation's surface waters. Originally enacted in 1948 as the Federal Water Pollution Control Act, it was substantially reorganized and augmented in 1972 with additional important amendments in 1977. The name Clean Water Act came into use with the 1977 amendments.

The basic premise of the CWA is there is no inherent right to discharge pollutants to federal jurisdictional waters (see Environmental Protection Agency Office of Wastewater Management 2012). Equally important, existing pollution does not authorize further discharge of pollutants; regardless of the condition of the receiving water, effluent that fails to meet applicable standards must be treated prior to discharge. In this context, the CWA protects water quality by regulating discharges containing known and potential pollutants to waters under federal jurisdiction; such discharges are illegal unless specifically permitted, and even where permitted, the allowable volume may be limited and water quality standards must continue to be met.

Key sections of the CWA include the following, each of which is discussed in more detail below.

- Section 303 – Water Quality Standards and Implementation Plans
- Section 304 – Information and Guidelines
- Section 404 – Permits for Dredged or Fill Material
- Section 401 – Water Quality Certification
- Section 402 – National Pollutant Discharge Elimination System

Clean Water Act Sections 303 and 304

CWA Section 303 requires the development of water quality standards to protect the public health and welfare and enhance water quality; the identification and prioritization of waters that fail to meet the applicable standard for one or more pollutants; and the development of programs to limit pollutant input and assist in recovering the quality of degraded waters. Among other provisions, CWA Section 304 provides critical support for the provisions of Section 303 by mandating the development of water quality criteria appropriate to support the maintenance of the various designated for federal jurisdictional waters.

Under CWA Section 303, the states have primary responsibility for developing water quality standards for the bodies of water under their jurisdiction (see below for more information on state jurisdictional waters). Water quality standards must reflect the designated uses of each water body, which may include public water supply, fish and wildlife propagation, recreation, agriculture, industry, and other purposes, in addition to navigation. New and revised standards are subject to review and approval by the federal Environmental Protection Agency.

The states are also responsible for identifying water bodies that fail to meet water quality standards for one or more pollutants. Such waters are referred to as *impaired*, and the list of impaired waters is often called the Section 303[d] list, from the governing section of the CWA. For each impaired water body and pollutant, the states are charged with developing a total maximum daily load program (TMDL). A TMDL represents the maximum amount of a given pollutant that a water body can accept while still meeting water quality standards; the purpose of a TMDL program is to identify the sources of the pollutant along with means of reducing inputs of that substance. Recognizing that TMDL development is a costly and time-consuming process, CWA Section 303 requires the states to prioritize the waters on their 303[d] lists, so the highest-priority recovery needs can be addressed first.

In California, the responsibility for implementing the provisions of CWA Section 303 is delegated by EPA to the State Water Resources Control Board, and by the State Board to the nine Regional Water Quality Control Boards, discussed further in *Porter-Cologne Water Quality Control Act* under *State Regulations and Policies* below.

Clean Water Act Section 404

Administered by the U.S. Army Corps of Engineers, Section 404 of the CWA regulates the placement of “dredged and fill materials” into waters of the United States, including bodies of open water such as rivers, streams, lakes, and marine waters, as well as wetlands. The Corps may issue permits for activities that meet criteria to ensure that degradation of function and value in jurisdictional waters is avoided, minimized, and compensated for. Because the terms “dredged and fill” are interpreted very broadly in practice, Section 404 essentially requires Corps permit authorization for a wide range of all activities entailing any type of disturbance or permanent impact below the ordinary high water mark in fresh water and below the mean higher high tide line in tidal waters.

Clean Water Act Section 401

Under CWA Section 401, all projects that require federal authorization and have the potential to result in a “discharge”—again interpreted very broadly in practice—to jurisdictional waters must obtain certification that the discharge is in compliance with the sections of the CWA that specifically protect water quality, including Section 303, and that the proposed activities therefore would not degrade water quality. In California, the authority to issue Section 401 water quality certifications is delegated to the State Water Resources Control Board, which in turn delegates responsibility to the nine Regional Water Quality Control Boards. All projects that require authorization under CWA Section 404 are automatically required to obtain Section 401 water quality certification.

Clean Water Act Section 402

CWA Section 402 established the National Pollutant Discharge Elimination System (NPDES), which regulates discharges from point (i.e., discrete or highly localized) sources such as wastewater treatment facilities, industrial facilities, some types of agricultural operations (e.g., feed lots), and urban stormwater outfalls. Runoff from construction sites is also regulated under the NPDES program.

All point-source discharges to waters of the United States must be authorized under an NPDES permit. *Individual permits* are issued for a single facility and reflect site- and facility-specific parameters. *General permits* cover multiple facilities or activities of the same general type within a defined geographic area. In California, federal authority to administer the NPDES program is delegated to the State Water Resources Control Board, which in turn delegates permit review, issuance, and enforcement responsibility to the nine Regional Water Quality Control Boards.

The NPDES program area most relevant to the proposed Project is the Construction Stormwater Program. In California, construction projects with a disturbance footprint of 1 acre or more, and smaller projects that are part of a larger undertaking that would disturb 1 acre or more, must obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit). The Construction General Permit requires preparation and implementation of a Storm Water Pollution Prevention Plan or SWPPP (usually pronounced “swip”) that lays out the best management practices (BMPs) or measures that will be implemented to control erosion and contain site runoff; and the monitoring measures that will be implemented to ensure that BMPs are operating effectively, including—if the site discharges directly to a water body that is listed on the Section 303[d] list (discussed above) as impaired for sediment—monitoring measures to ensure that sediment is effectively controlled.

Recent updates to the Construction General Permit (see State Water Resources Control Board 2009) instituted a risk-based permitting approach, with key aspects of the permit requirements based on the project's potential to generate sediment runoff and the risk additional sediment loading poses to receiving waters. Higher-risk sites are required to prepare a Rain Event Action Plan (REAP) that lays out procedures to be implemented for the protection of exposed areas in the event precipitation is forecast as likely (greater than 50% probability). Also for the first time, the Construction General Permit now specifies daily quantitative limits (numerical effluent limits or NELs) on pH and sediment content in construction site runoff, and identifies numerical "action level" (NAL) thresholds at which the project proponent must take action to control and reduce pH and turbidity in site runoff. The qualifications of personnel allowed to prepare SWPPPs are now also expressly stipulated in the permit.

Rivers and Harbors Appropriation Act

Signed into law in 1899, the Rivers and Harbors Appropriation Act was the nation's first federal environmental protection law. Commonly referred to as the Rivers and Harbors Act, it protects and regulates the use of the nation's navigable waters. Of particular relevance to the proposed Project, Section 10 of the Rivers and Harbors Act (33 USC 403) prohibits activities that "excavate or fill, or in any manner...alter or modify the course, location, condition, or capacity of...the channel of any navigable water of the United States" without federal authorization. Section 10 is administered by the Corps.

Executive Order 11988 – Floodplain Management

Issued in 1977, Executive Order (EO) 11988 charges federal agencies with avoiding the adverse effects of floodplain modification and occupancy to the extent feasible. EO 11988 also directs federal agencies to avoid direct and indirect support of development within floodplains wherever there is a practicable alternative. These mandates apply to a wide range of federal agency responsibilities, including acquisition, management and disposal of federal lands and facilities, as well as the approval and implementation of federal construction undertakings and provision of funds to assist in state or local agency projects. The directives in EO 11988 also apply to federal planning, regulatory, and permitting programs, including those related to water and land resources.

EO 11988 lays out a multi-step process for agency decision-making regarding proposed projects that have the potential for floodplain impacts, as follows.

- Determine whether the proposed action would be located within the base (100-year) floodplain³
- Provide public notice and conduct early public review of the project proposal
- Identify and evaluate practicable alternatives to siting the project within the base floodplain, including alternative sites outside of the floodplain
- Identify the impacts of the proposed action and develop measures to minimize impacts and restore and preserve the floodplain
- Reevaluate alternatives with these mitigation measures incorporated
- Present and explain the findings of the impact analysis
- Approve and implement the action

³ The *100-year flood* is the flood event with a magnitude that has a 1% chance of being equaled or exceeded in any given year. The 100-year flood event is considered the "base flood" for federal planning purposes.

The public disclosure, alternatives evaluation, impact analysis, and mitigation development steps laid out in this process are all further governed by requirements of the National Environmental Policy Act, and may be subject to additional federal regulations as well, for example, Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and/or Section 7 and other provisions of the federal Endangered Species Act.

National Flood Insurance Program

The National Flood Insurance Program (NFIP) is a public-private partnership originally created by Congress in 1968 under the National Flood Insurance Act and updated by several subsequent acts, including most recently the Homeowner Flood Insurance Affordability Act signed into law in March 2014. Under the NFIP, federally subsidized flood insurance is provided in return for communities agreeing to implement floodplain management ordinances that meet or exceed certain standards.

The Federal Emergency Management Agency (FEMA) oversees the NFIP and is responsible for evaluating flood hazards and providing maps delineating areas of flood hazard within participating communities. FEMA's Flood Insurance Rate Maps (FIRMs) are used in identifying flood risks to individual properties and projects and enable appropriate insurance rates to be set. They are also used by local communities in land use planning (for example, in the application of flood hazard area zoning overlays) and implementing local regulations and programs to reduce flood risks. Local flood hazard reduction planning under the NFIP is discussed further in the section on the *Encinitas Floodplain Management Ordinance* in *Local Regulations and Plans* below.

State Regulations and Policies

Regulatory Definition of Waters of the State of California

Section 13050[e] of the California Water Code defines *waters of the state* as "any surface water or groundwater, including saline waters, within the boundaries of the state." This is a less specific and even more comprehensive definition than the federal use of waters of the United States, discussed above.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act of 1969 (California Water Code Division 7) established the State Water Resources Control Board (SWRCB), an arm of the California Environmental Protection Agency, charged with formulating and adopting statewide policies for water quality protection (California Water Code §13140). It also divided the state into nine hydrologic regions, each of which is overseen by a Regional Water Quality Control Board (RWQCB). Although the SWRCB has an essential oversight and policy-making role, much of the Clean Water Act implementation authority delegated by the federal government to the SWRCB is passed on to, and implemented by, the RWQCBs, whose responsibilities are listed in Section 13225 of the Porter-Cologne Act, as follows.

- Developing and adopting water quality control plans ("basin plans") for the region's major surface water bodies and groundwater basins. This includes identifying the beneficial uses of the region's principal waters and the water quality objectives appropriate to protect them. These related responsibilities implement CWA Sections 303–304. Beneficial uses represent the resources, services, and qualities offered by an aquatic system and can be thought of as the reasons why the water body is considered valuable. Water quality objectives reflect the level of water quality needed to ensure that a water body continues to meet its designated beneficial uses. Water quality objectives may be numerical (quantitative) or narrative (descriptive).
- Implementing programs to achieve the identified water quality objectives, including specific action recommendations, the implementation schedule, and the follow-up measures to determine whether compliance is achieved; in practice, this broad responsibility includes the implementation and

oversight of TMDL programs to recover the quality of impaired waters (see discussion under CWA Sections 303 and 304 in Federal Regulations above).

- Regulating discharges of waste that may affect waters of the state; setting standards to maintain the condition of waters that receive waste discharges; and encouraging and assisting in waste disposal programs; these responsibilities implement CWA Sections 401 and 402, also discussed above.

Fish and Game Code Section 1602

Section 1602 of the California Fish and Game Code regulates activities affecting the geomorphology and function of the state's rivers, streams, and lakes. Administered by the California Department of Fish and Wildlife (DFW), it requires DFW approval for activities that would

- Divert or obstruct the natural flow of a river, stream, or lake
- Modify the bed, channel, or bank of a river, stream, or lake
- Use material from the bed, channel, or bank of a river, stream, or lake
- Place debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake

Persons or organizations proposing such activities must notify DFW in writing prior to beginning work, and must provide detailed information on the location and nature of the proposed work. If granted, authorization takes the form of a Streambed Alteration Agreement or Lakebed Alteration Agreement, and typically includes terms and conditions required to protect water quality, aquatic system function, and habitat value.

Section 1602 is sometimes viewed as providing a state parallel to the federal protection afforded under Section 404 of the CWA, and this is broadly true, but DFW's particular responsibility focuses on the value of the state's watercourses in providing habitat for fish and wildlife. As such, DFW's jurisdiction is typically understood as extending across the "bed and banks" of the aquatic system in question; it generally encompasses not only the active channel but also the adjacent riparian corridor, and may be more extensive than Corps jurisdiction under Section 404.

Local Regulations and Plans

City of Encinitas

Encinitas General Plan

The City's General Plan (City of Encinitas 1989) outlines a number of goals and policies to protect surface and groundwater from pollution. In particular, Resource Management Goal 14 commits to "stringently control[ing] erosion and sedimentation from land use and development to avoid environmental degradation of lagoons and other sensitive biological habitat." Several policies support this goal, including the following.

- For all projects within the City, grading and vegetation are to be limited to the minimum necessary (Resource Management Policy 14.1).
- Projects involving grading must implement a comprehensive erosion control plan (City of Encinitas 1989) (Resource Management Policy 14.6). The City enforces this requirement through the building permit process. Specific approaches and means to stabilize the ground surface and/or reduce runoff velocity, decreasing the potential for ground disturbance to result in accelerated erosion, are laid out in Section 3.500 of the City's *Engineering Design Manual* (City of Encinitas 2009). They include measures such as bonded fiber matrix, straw mat, geotextile fabric, and hydroseed.

- During the rainy season, grading is prohibited in the sensitive areas protected by the various Special Study Zone zoning overlays (defined in Municipal Code 30.34.040) as well as all locations upslope of sensitive lagoonal, floodplain, riparian, and wetland habitat, unless (1) it can be shown that the grading would not involve “sensitive slopes,” (2) grading would not occur where resulting sedimentation might impact sensitive habitat, and (3) the project would have erosion control in place, monitored, and maintained throughout the grading period (City of Encinitas 1989) (Resource Management Policy 14.5).

The General Plan also requires new development to implement measures to conserve water during construction and encourages the planting of drought-tolerant plants (City of Encinitas 1989) (Resource Management Policies 1.1 and 1.10). The City encourages the highest feasible level of treatment of wastewater flowing from the San Elijo ocean outfall and aims to eliminate potential pollution that threatens marine or human health (City of Encinitas 1989) (Resource Management Policies 2.1 and 2.2).

Encinitas Floodplain Management Ordinance

Consistent with the requirements of the National Flood Insurance Program, the City of Encinitas Municipal Code includes floodplain management regulations (Municipal Code Chapter 23.40) that provide a uniform, Citywide standard for the design, review, and approval of projects in designated floodprone areas. The Floodplain Management Ordinance applies to both public (City) and private projects within areas of special flood hazard as defined on the most current (2012) FEMA Flood Insurance Rate Study for the City of Encinitas.

Specific provisions of the Floodplain Management Ordinance are intended to

- Restrict or prohibit uses that are dangerous to health, safety, and property as a result of flood risks, and require that uses that are vulnerable to floods incorporate design or other safeguards against flood damage
- Avoid damaging increases in or flood heights or velocities, or in flood-related erosion, by
 - Controlling the modification of stream channels, floodplains, and natural levees that accommodate, convey, and contain floodflows
 - Controlling filling, grading, dredging, and other development that which may increase flood damage
 - Preventing or regulating the construction of flood barriers that would unnaturally divert floodwaters within the City, or could increase flood hazards in other areas

This includes detailed stipulations for flood resistance and hazard reduction for a wide range of types of projects.

In portions of the City where a designated regulatory floodway exists, all encroachments are prohibited, unless certification by a registered civil engineer has been provided to demonstrate that the proposed encroachment would not increase flood levels under base flood (100-year or 1% flood) conditions. This requires a flood hydraulics study, which is subject to evaluation by both the City and FEMA.

Where a regulatory floodway has not yet been defined, but a flood hazard has been recognized, as reflected by zoning⁴, new construction or development, including fill, is prohibited unless the proponent can

⁴ At the time the Floodplain Management Ordinance was adopted, flood hazard areas were identified using AI-30 or AE zoning overlays. The current zoning overlays for areas of recognized flood hazard are FP and FPO, discussed in the following section.

demonstrate that the cumulative effect of the proposed development, when combined with all other development, would not increase the water surface elevation of the base flood more than 1 foot at any point within the City.

Under the Ordinance, the Director of Public Works is designated as the City's Floodplain Administrator and is responsible for overseeing all applications for development permits within designated areas of special flood hazard. The purpose of this oversight is to verify that

- Project plans are consistent with the design and other specifics of the Floodplain Management Ordinance
- All other required state and federal permits have been obtained
- The site is reasonably safe from flooding
- The proposed development would not adversely affect the flood conveyance capacity of areas where base flood elevations have been determined but a floodway has not been designated. This means that the cumulative effect of the proposed development when combined with all other existing and anticipated development will not increase the water surface elevation of the base flood more than 1 foot at any point within the City of Encinitas and
- If a formal letter of map revision (LOMR) from FEMA is required, this has been issued prior to City approval of building permits

Of particular relevance to the proposed Project, Section 20354.20 of the Floodplain Management Ordinance establishes *Standards for Utilities*, as follows.

- All new and replacement water supply and sanitary sewage systems must be designed to minimize or eliminate:
 - Infiltration of flood waters into the systems
 - Discharge from the systems into flood waters
- For projects that incorporate onsite waste disposal, the waste disposal system must be located to avoid flood damage, and also to avoid the potential release of contaminants to floodwaters

Encinitas Zoning Ordinance – Zoning Overlays for Areas of Flood Hazard

The City uses a zoning overlay to identify areas of recognized flood hazard. These include floodplains and flood channels identified by FEMA, County, and/or City mapping, as well as portions of the Special Study Overlay Zones that are not formally designated but nonetheless support a flood channel, floodplain, or wetland (Encinitas Municipal Code 30.34.040[A]). The Floodplain Zoning Overlay is thus not only used in implementing the City's Floodplain Management Regulations (discussed in the previous section) but also helps to reduce hazards in areas that are not designated by FEMA. The Floodplain Zoning Overlay is shown as FP and FPO on the City's zoning map (see Figure 2-2).

Encroachments, modifications, and development are strictly limited in areas under the FP or FPO overlay (Encinitas Municipal Code 30.34.040[B]), as follows.

- To prevent bridge and overcrossings from impeding the passage of floodwaters, transportation and utility crossings are required to provide improvements or modifications to maintain adequate floodway capacity to convey the 100-year flood

- River and stream channels may only be modified for a few types of projects:
 - Necessary water supply projects
 - Flood protection projects, *if* the project is necessary to protect public safety or already-existing development *and* no other feasible method of protection exists
 - Projects to improve fish and wildlife habitat

Such projects must be designed to avoid increases in the runoff, erosion, and downstream sediment transport, and must maintain a floodway capacity adequate to convey the 100-year flood discharge. If artificial channels are constructed for the project, to the extent feasible they must use natural bank and bed materials and be designed to accommodate existing riparian vegetation

- Permanent improvements (including roads, structures, etc.) are permitted within the 100-year floodplain only if the project applicant can demonstrate the following
 - The new installation will be capable of withstanding periodic flooding and thus will not require the construction of new flood protection works
 - The project will not result in significant adverse effects on sensitive habitat
 - The project will not result in a net reduction in the extent of riparian habitat within the floodplain
 - The project design incorporates input from site-specific and watershed-scale hydrologic/hydraulic studies, such that there will be no increase in the peak runoff rate from the site, and no significant increase in or contribution to downstream erosion and sedimentation
 - The project will not result in significant adverse effects on water quality in downstream wetlands, lagoons, or other environmentally sensitive habitat areas

Additional limitations apply to modification of wetlands (Encinitas Municipal Code 30.34040[B][3]). In particular, within the Coastal Zone, only the following types of projects are permissible, and then only if the project can be shown to be the least environmentally damaging alternative, and incorporates appropriate mitigation; this is consistent with federal limitations on permissibility of development in wetlands and waters per Section 404 of Clean Water Act, discussed above.

- Incidental public service projects
- Mineral extraction, except in environmentally sensitive areas
- Habitat restoration
- Nature study, aquaculture, and similar/related activities

County of San Diego

County General Plan

The Safety Element of the County's General Plan (County of San Diego 2011) was developed to support the incorporation of public safety considerations into land use planning and decision making. It addresses a wide range of topics, including wildfires, seismic and other geologic hazards, flooding, airport hazards, and law enforcement. The portions of the Safety Element that deal with flood hazards are primarily aimed reducing the potential for land development projects to increase flood risks on and off the development site. Utilities

projects are not specifically addressed, but some of the Safety Element’s goals and policies are nonetheless relevant in a general way to the Project. These are itemized in Table 3-3.

Table 3-3: San Diego County General Plan Safety Element Policies on Flood Hazards

Goal	Policies
<p>GOAL S-9: Protection of Life and Property. Minimized personal injury and property damage losses resulting from flood events.</p>	<p>S-9.1 Floodplain Maps Manage development based on federal floodplain maps. County maps shall also be referred to and in case of conflict(s) between the County floodplain maps and the federal floodplain maps, the more stringent of restrictions shall apply.</p> <p>S-9.2 Development in Floodplains Limit development in designated floodplains to decrease the potential for property damage and loss of life from flooding and to avoid the need for engineered channels, channel improvements, and other flood control facilities. Require development to conform to federal flood proofing standards and siting criteria to prevent flow obstruction.</p> <p>S-10.6 Stormwater Hydrology Ensure development avoids diverting drainages, increasing velocities, and altering flow rates to off-site areas to minimize adverse impacts to the area’s existing hydrology. Require development within mapped flood hazard areas be sited and designed to minimize on and off-site hazards to health, safety, and property due to flooding.</p> <p>S-9.5 Development in the Floodplain Fringe Prohibit development in the floodplain fringe when located on Semi-Rural and Rural Lands to maintain the capacity of the floodplain, unless specifically allowed in a community plan. For parcels located entirely within a floodplain or without sufficient space for a building pad outside the floodplain, development is limited to a single family home on an existing lot or those uses that do not compromise the environmental attributes of the floodplain or require further channelization.</p> <p>S-9.6 Development in Dam Inundation Areas Prohibit development in dam inundation areas that may interfere with the County’s emergency response and evacuation plans.</p>
<p>GOAL S-10: Floodway and Floodplain Capacity. Floodways and floodplains that have acceptable capacity to accommodate flood events.</p>	<p>S-10.1 Land Uses within Floodways Limit new or expanded uses in floodways to agricultural, recreational, and other such low-intensity uses and those that do not result in any increase in flood levels during the occurrence of the base flood discharge, do not include habitable structures, and do not substantially harm, and fully offset, the environmental values of the floodway area. This policy does not apply to minor renovation projects, improvements required to remedy an existing flooding problem, legal sand or gravel mining activities, or public infrastructure.</p> <p>S-10.4 Stormwater Management Require development to incorporate low impact design, hydromodification management, and other measures to minimize stormwater impacts on drainage and flood control facilities.</p> <p>S-10.6 Stormwater Hydrology Ensure development avoids diverting drainages, increasing velocities, and altering flow rates to off-site areas to minimize adverse impacts to the area’s existing hydrology.</p>

Source: County of San Diego 2011

Flood Damage Prevention Ordinance

The County's Flood Damage Prevention Ordinance (County Code of Regulatory Ordinances Title 8, Division 11, §11.101 ff.) was enacted to promote public health, safety, and welfare, with a particular focus on safety and economic risks associated with flooding. Among its specific aims are protecting human life and health; and minimizing expenditures of public money for flood control projects, the need for flood rescue and relief efforts undertaken at public expense, and the potential for damage to public facilities and utilities such as water and gas mains, sewer infrastructure, streets, and bridges. Other goals include minimizing the potential for prolonged business interruptions, helping maintain a stable tax base by avoiding the creation of blighted areas due to flood damage, and ensuring that potential buyers are notified when a property is in an area of special flood hazard.

To accomplish these outcomes, the Ordinance includes methods and provisions to

- Restrict or prohibit uses that pose safety or property risks due to water or erosion hazards, or would result in damaging increases in erosion or flood heights or velocities
- Require that uses vulnerable to floods be protected against flood damage at the time of initial construction
- Control the alteration of natural flood plains and channels that convey flood waters
- Control filling, grading, dredging, and other activities that may increase flood damage
- Prevent or regulate the construction of barriers that will divert flood waters and may increase flood hazards in other areas

Section 811.502 of the Flood Damage Prevention Ordinance (Standards for Utilities) includes the following requirement that is directly relevant to the Project.

- All new and replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from systems into flood waters.

The County's development permit review process provides the mechanism to enforce the requirements and limitations established under the Flood Damage Prevention Ordinance. Projects that comply with the Flood Damage Prevention Ordinance are also considered to be in compliance with FEMA regulations.

Resource Protection Ordinance

The County's Resource Protection Ordinance (County Code of Regulatory Ordinances Title 8, Division 6, Chapter 6, §87.601 ff.) was adopted with the goal of protecting "sensitive lands" such as wetlands, floodplains, steep slopes, sensitive habitats, and lands that support prehistoric and historic cultural sites – while still preserving property owners' ability to make reasonable use of their land. Among other provisions, the Resource Protection Ordinance limits the types of construction allowable in floodways. Agriculture, recreation, and other low intensity uses are generally permissible, as long as environmental values are preserved. Residential and workplace uses are prohibited. Modifications to floodways are strictly controlled, and the use of hardscape (concrete or riprap) channelization is generally discouraged.

Grading Ordinance

The County's Grading Ordinance (County Code of Regulatory Ordinances Title 8, Division 7, §87.601–87.608) combines regulations that govern the clearing and grading of land in general, as well as activities affecting watercourses.

Under the Grading Ordinance, all grading within County jurisdiction requires a County permit except for certain activities that are exempted. Exempt activities include the following.

- Cuts and fills less than 8 feet in height and involving no more than 200 cubic yards of material
- Excavations for basements, footings, retaining walls, swimming pools, septic tanks, and leach facilities that are authorized by a valid County building permit
- Refuse disposal and landfill activities conducted in accordance with a valid use permit, as long as the natural drainages are not obstructed or diverted and the activity does not adversely affect adjacent properties
- Tilling and cultivation for agricultural production, subject to certain limitations
- Grading incidental to the construction or installation of facilities by a public agency or utility not subject to regulation by the County
- Grading to repair or prevent emergency conditions, when authorized in advance and in writing by the County
- Quarrying, borrow activities, and surface mining conducted pursuant to a valid use permit
- Routine road maintenance activities

With limited exceptions, the following additional activities within watercourses require authorization under a County grading permit.

- Impairment, impedance, or acceleration of flow
- Alteration of topography in a manner that reduces the capacity of the watercourse
- Construction, alteration or removal of flood control and storm water improvements
- Fill placement and encroachments that would increase flood levels or reduce the ability to convey the 100-year flood in a County-designated floodway or flood channel

The Grading Ordinance also explicitly prohibits deposition of materials that may impair, impede or accelerate the flow of water in a manner that adversely affect adjoining property; planting of vegetation that may impair, impede, or divert the flow of water, unless required by a County land development permit; and other activities that would impair the function of a drainage or flood control easement. In addition, new construction and substantial improvements within floodplains and flood channels designated under the County Zoning Ordinance must comply with flood-proofing requirements.

Impacts and Mitigation Measures

Impact	Significance	Mitigation	Significance with Mitigation
<i>Proposed Project</i>			
HWQ1 – Potential to Violate Water Quality Standards during Construction	Less than significant	<i>None required</i>	Less than significant

Impact	Significance	Mitigation	Significance with Mitigation
HWQ2 – Potential to Violate Water Quality Standards during Operations	Less than significant Long-term: Benefit	<i>None required</i>	Less than significant Long-term: Benefit
HWQ3 – Potential to Impede or Redirect Floodflows	Elevation of base flood level: Less than significant Impedance or redirection of floodflows: Less than significant	<i>None required</i>	Less than significant
HWQ4 – Potential to Increase Runoff On- or Offsite	No impact	<i>None required</i>	No impact
HWQ5 – Potential to Result in Substantial Erosion or Siltation On- or Offsite	Construction period: Less than significant Long-term: No Impact	<i>None required</i>	Less than significant
HWQ6 – Potential to Interfere with Groundwater Recharge	No impact	<i>None required</i>	No impact
HWQ7 – Potential to Deplete Groundwater Supplies	No impact	<i>None required</i>	No impact
HWQ8 – Potential to Expose People or Structures to Tsunami, Seiche, Mudflow, or Dam Failure Inundation Hazards	Less than significant	<i>None required</i>	Less than significant
<u>Alternative 1 – Combination Access, Alternate Configuration</u>			
HWQ1 – Potential to Violate Water Quality Standards during Construction	Less than significant	<i>None required</i>	Less than significant
HWQ2 – Potential to Violate Water Quality Standards during Operations	Less than significant Long-term: Benefit	<i>None required</i>	Less than significant Long-term: Benefit
HWQ3 – Potential to Impede or Redirect Floodflows	Elevation of base flood level: Less than significant Impedance or redirection of floodflows: Less than significant	<i>None required</i>	Less than significant
HWQ4 – Potential to Increase Runoff On- or Offsite	No impact	<i>None required</i>	No impact
HWQ5 – Potential to Result in Substantial Erosion or Siltation On- or Offsite	Construction period: Less than significant Long-term: No Impact	<i>None required</i>	Less than significant
HWQ6 – Potential to Interfere with Groundwater Recharge	No impact	<i>None required</i>	No impact

Impact	Significance	Mitigation	Significance with Mitigation
HWQ7 – Potential to Deplete Groundwater Supplies	Project use of groundwater: No impact Groundwater involvement in construction: Less than significant	<i>None required</i>	Project use of groundwater: No impact Groundwater involvement in construction: Less than significant
HWQ8 – Potential to Expose People or Structures to Tsunami, Seiche, Mudflow, or Dam Failure Inundation Hazards	Less than significant	<i>None required</i>	Less than significant

Alternative 2 – Conventional Continuous Access, Plantable/Pervious Surface Treatments

HWQ1 – Potential to Violate Water Quality Standards during Construction	Less than significant	<i>None required</i>	Less than significant
HWQ2 – Potential to Violate Water Quality Standards during Operations	Less than significant Long-term: Benefit	<i>None required</i>	Less than significant Long-term: Benefit
HWQ3 – Potential to Impede or Redirect Floodflows	Elevation of base flood level: Less than significant Impedance or redirection of floodflows: Significant and unavoidable	<i>None available</i>	Significant and unavoidable
HWQ4 – Potential to Increase Runoff On- or Offsite	No impact	<i>None required</i>	No impact
HWQ5 – Potential to Result in Substantial Erosion or Siltation On- or Offsite	Construction period: Less than significant Long-term: No Impact	<i>None required</i>	Less than significant
HWQ6 – Potential to Interfere with Groundwater Recharge	No impact	<i>None required</i>	No impact
HWQ7 – Potential to Deplete Groundwater Supplies	No impact	<i>None required</i>	No impact
HWQ8 – Potential to Expose People or Structures to Tsunami, Seiche, Mudflow, or Dam Failure Inundation Hazards	Less than significant	<i>None required</i>	Less than significant

No Project/No Action

HWQ1 – Potential to Violate Water Quality Standards during Construction	No impact	<i>None required</i>	No impact
HWQ2 – Potential to Violate Water Quality Standards during Operations	Significant and unavoidable	<i>None available</i>	Significant and unavoidable

Impact	Significance	Mitigation	Significance with Mitigation
HWQ3 – Potential to Impede or Redirect Floodflows	Elevation of base flood level: No impact Impedance or redirection of floodflows: No impact	<i>None required</i>	No impact
HWQ4 – Potential to Increase Runoff On- or Offsite	No impact	<i>None required</i>	No impact
HWQ5 – Potential to Result in Substantial Erosion or Siltation On- or Offsite	No impact	<i>None required</i>	No impact
HWQ6 – Potential to Interfere with Groundwater Recharge	No impact	<i>None required</i>	No impact
HWQ7 – Potential to Deplete Groundwater Supplies	No impact	<i>None required</i>	No impact
HWQ8 – Potential to Expose People or Structures to Tsunami, Seiche, Mudflow, or Dam Failure Inundation Hazards	No impact	<i>None required</i>	No impact

Proposed Project

Less than Significant Impacts

Impact HWQ1 – Potential to Violate Water Quality Standards during Construction

Construction of the new access would require vegetation removal, limited grading, installation of surface reinforcing treatments, and revegetation. All of these activities would entail ground disturbance and would have the potential to accelerate runoff and/or lead to increased delivery of silt/sediment to downstream waters. There is also limited potential for spills of substances used in construction, including but not necessarily limited to vehicle fuels, lubricants, etc. Work for manhole rehabilitation and siphon and manhole removal would occur within the new access footprint prior to revegetation, and could also have some potential to increase the delivery of silt and other pollutants; in addition, it would generate demolition and construction debris. Similarly, installation of the new (realigned) sewer segment within Lone Jack Road would require pavement demolition, excavation, and repaving, and involve the use of various substances—including equipment fuels and lubricants, paving media, striping media, and others—that could impact surface water quality if uncontrolled. At their worst, impacts associated with all of these construction phases would have the potential to be significant.

However, because the Project footprint would be in excess of 1 acre, the Project will be required to obtain permitting under Section 402 of the federal NPDES program. This will proceed under the current Construction General Permit and will entail preparation and implementation of a SWPPP that provides explicit measures for the prevention and containment of pollutant discharges associated with construction. The SWPPP will apply to all portions of the project and will include measures for work in and adjacent to sensitive habitat as well as measures for work within existing paved roadways.

In addition, because of the need for work within federal and state jurisdictional limits, the Project will require authorization under both Section 404 of the federal CWA and Section 1602 of the California Fish and Game

Code. Permit terms and conditions are expected to define additional measures specific to the Creek and Lagoon. SWPPP requirements and permit terms and conditions will be incorporated as Special Technical Provisions in the Project construction documents to render implementation binding on all Project contractors.

Among the measures to be included in the SWPPP and construction documents will be the following restrictions adopted as environmental commitments for the Project. Any further measures identified through the federal and state permitting process will also be included in the Project construction documents for binding implementation.

- No fueling, lubrication, maintenance, or staging of vehicles or equipment will be permitted within sensitive habitat; all such activities will be restricted to areas outside sensitive habitat as determined by qualified biologists retained by and reporting to the City, under the oversight of regulatory agency staff.
- Erosion and sediment control devices used for the proposed Project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard. If wattles are used, only certified sterile, weed-free rice straw may be used.
- If work within areas of flowing or standing water is necessary, cofferdams or other appropriate containment will be used to prevent ground disturbance from increasing downstream sediment loading and turbidity. If cofferdamming/containment is identified as necessary, the measures will be approved by, and installed under the supervision of, the City's biologists.
- Appropriate types and sufficient quantities of materials will be maintained onsite to contain any spill or inadvertent release of materials that may cause a condition of pollution or nuisance if the materials reach waters of the United States and/or state.
- If construction-related materials reach surface waters, appropriate spill response procedures will be initiated as soon as the incident is discovered. City staff as well as the RWQCB will be notified as soon as feasible, and in no case more than 24 hours after the occurrence.

With these measures in place, plus the additional oversight and controls provided through the federal and state permit processes, **construction-period impacts on water quality would be materially reduced or avoided, and the associated potential for violation of water quality standards and/or waste discharge requirements would be less than significant under both CEQA and NEPA.**

Impact HWQ2 – Potential to Violate Water Quality Standards during Operations

As discussed in Chapter 2, a primary goal of the Project is to enable the City to reinstate a full program of inspection, cleaning, and maintenance along the OTS below El Camino del Norte. By providing ingress into portions of the Creek/Lagoon corridor that currently cannot be accessed by City teams, the Project would increase the presence of humans and vehicles within sensitive habitat, and could slightly increase the potential for inadvertent releases of small quantities of substances such as fuels or lubricants. However, the City will continue to implement the following measures as standard operating procedure for all work within sensitive habitat. Additional ongoing requirements may also be identified through the federal and state permitting process.

- No fueling, lubrication, maintenance, or staging of vehicles or equipment will be permitted within sensitive habitat; all such activities will be restricted to areas outside sensitive habitat as determined by qualified biologists retained by and reporting to the City, under the oversight of regulatory agency staff.

- Appropriate types and sufficient quantities of materials will be maintained in City vehicles to contain any spill or inadvertent release of materials that may cause a condition of pollution or nuisance if the materials reach waters of the United States and/or state.
- If operations-related materials reach surface waters, appropriate spill response procedures will be initiated as soon as the incident is discovered. The RWQCB will be notified as soon as feasible, and in no case more than 24 hours after the occurrence.

With these commitments in place, **operational impacts on water quality would be materially reduced or avoided, and the associated potential for violation of water quality standards would be less than significant under both CEQA and NEPA.**

Moreover, the Project would substantially improve the City's ability to maintain the OTS below El Camino del Norte. As discussed in Chapters 1 and 2, recent condition assessments show that many of the manholes along the Project reach of the OTS are substantially degraded. With a significant I&I problem, and with the City's ability to clean the Project compromised by access challenges, the line is accumulating sediment such that several manholes are now nearing a condition of surcharge. There is a very real (reasonably foreseeable) potential for spill, overflow, or failure if the current deficiencies are not corrected, and such an event would adversely impact water quality in the Creek and/or Lagoon, with the potential to cause violation of water quality objectives for various contaminants, including but not limited to fecal coliform. By rehabilitating the degraded manholes, curbing I&I, and enabling the City to reinstate a full program of inspections, cleaning, and maintenance with access to the entire length of the OTS between El Camino del Norte and Manchester Avenue, the Project would substantially reduce the potential for spills, overflows, and failure of a critical wastewater facility, providing greatly improved protection for water quality in Escondido Creek and San Elijo Lagoon. Under both CEQA and NEPA, this represents a **substantial long-term benefit in terms of compliance with water quality standards.**

Impact HWQ3 – Potential to Impede or Redirect Floodflows

The Project would construct a new access to existing sewer manholes within the FEMA-designated 100-year floodway associated with Escondido Creek and San Elijo Lagoon. However, no modification to existing channel or floodplain geomorphology is proposed. Minor grading would be required for construction, but the finished grade for the access would match the existing grade, so the project would not alter topography within the Creek or Lagoon. In addition, the new access would be revegetated with a palette very similar to existing site vegetation with the exception that revegetation would focus on low-growing herbaceous species to provide for long-term drivability without the need for vegetation trimming. Over most of its length, therefore, the proposed new access would not decrease flood conveyance capacity, impede floodflows, or redirect floodflows. If anything, due to the emphasis on low-growing species, it could locally decrease hydraulic roughness and improve conveyance.

In the two locations where Level 5 improvements are needed to cross areas of perennial flowing or standing water, the crossings are expected to take one of the following forms.

- "Engineered Arizona crossing," i.e., a drivable ford that maintains existing channel geometry but adds engineering treatment for reinforcement adequate to support the weight of the City's Vac-Con or similar equipment
- Appropriately sized culvert with at-grade approaches on both sides

Both of the anticipated Level 5 crossings would involve side channels that are located high on the floodplain and oriented transverse to the prevailing direction of flow, and thus do not contribute substantially to floodflow conveyance in the Creek. The important consideration in designing the crossings is thus to avoid

structures that project above grade with the potential to obstruct flows and/or generate turbulence, either of which could result in elevation of the base flood stage if the disruption were sufficient. Both of the treatments under consideration (engineered Arizona crossing and culvert with at-grade approaches) were specifically selected because they would maintain the existing grade in the vicinity of these channels and thus would not impede flow or materially increase hydraulic roughness.

Because the Project would not modify existing geomorphology and would not add above-grade structures, it would not redirect floodflows. Similarly, the low-profile/at-grade design would avoid material impedance of floodflows, and in particular would avoid elevation of the base flood level. **Impacts on floodflows would be less than significant under both CEQA and NEPA.** No mitigation is required.

Impact HWQ4 – Potential to Increase Runoff On- or Offsite

The Project would not modify existing geomorphology, and would not add impermeable surfaces to the Creek/Lagoon corridor. Rather, as discussed in Chapter 2, the new access is being designed to conform to existing grade, and would use permeable and plantable surfaces revegetated with site-appropriate native species. As a result, the Project would not increase runoff within or outside the Project alignment. **There would be no impact under either CEQA or NEPA related to increased runoff.** No mitigation is required.

Impact HWQ5 – Potential to Result in Substantial Erosion or Siltation On- or Offsite

As discussed above in Impact HWQ1 (*Potential to Violate Water Quality Standards during Construction*), construction of the new access would require removal of existing vegetation, limited grading, installation of surface reinforcing treatments, and revegetation. Installation of the new (realigned) sewer segment within Lone Jack Road would also involve removal of existing pavement, followed by excavation, with excavated materials stockpiled adjacent to the trench for use in backfilling. All of these ground-disturbing activities would have the potential to accelerate erosion at the work site, potentially increasing the delivery of silt/sediment to downstream waters.

However, as the discussion under Impact HWQ1 identifies, because the Project footprint would be in excess of 1 acre, the Project will be required to obtain permitting under Section 402 of the federal NPDES program, requiring preparation and implementation of a project-specific SWPPP that provides explicit measures for erosion control and for the prevention and containment of pollutant discharges associated with construction, including offsite delivery of sediment from the construction site. The SWPPP will apply to all portions of the project and will include measures for work in and adjacent to sensitive habitat as well as measures for work within existing paved roadways.

The Project will require authorization under both Section 404 of the federal CWA and Section 1602 of the California Fish and Game Code, likely entailing additional measures specific to work within the Creek and Lagoon. SWPPP requirements and permit terms and conditions will be incorporated as Special Technical Provisions in the Project construction documents to render implementation binding on all Project contractors. With the SWPPP and any additional permit terms in place, **construction-period impacts related to accelerated erosion and siltation would be less than significant under both CEQA and NEPA.**

Once the new access is in place, all of the expanded inspection, cleaning, and maintenance activities along the newly accessible segment of the OTS would occur entirely within the improved footprint of the new access route; within the Creek and Lagoon, work would be stringently restricted to the access routes. Consequently, the increased level of maintenance facilitated by the Project would not result in ground disturbance and is not expected to increase erosion or siltation. There would be **no long-term impact under either CEQA or NEPA related to accelerated erosion and siltation.**

Impact HWQ6 – Potential to Interfere with Groundwater Recharge

As identified in the prior impact item, and discussed in detail in Chapter 2, the Project would not incorporate hardscape and therefore would not increase the extent of impermeable surface. Instead, the new access would use permeable surface reinforcement treatments and would be planted with native vegetation similar to the existing species mix within the alignment; it would not interfere with infiltration of rainfall or surface flows, and is not expected to materially alter the uptake of shallow subsurface moisture by plants. **There would be no impact under either CEQA or NEPA related to interference with groundwater recharge.** No mitigation is required.

Impact HWQ7 – Potential to Deplete Groundwater Supplies

The Project would not directly involve groundwater in any way. Construction would likely entail minor use of water for purposes such as dust control, moisture control during placement of engineered backfill, and irrigation during the revegetation establishment period. Water is also used in the sewer cleaning process, and this use would increase slightly due to the expanded scope of maintenance enabled by the Project. Both construction and operational water would likely be obtained from local water purveyors—the San Dieguito Water District, Olivenhain Municipal Water District, or Santa Fe Irrigation District for construction, and presumably the San Dieguito Water District or Olivenhain Municipal Water District for operations, as discussed further in Chapter 11. None of these agencies uses groundwater (see discussion of *Potable Water* under *Existing Conditions* in Chapter 11, *Utilities and Service Systems*). The Project thus would have **no impact under either CEQA or NEPA relative to the use of groundwater or the potential for groundwater use to result in depletion of groundwater supply.** No mitigation is required.

Groundwater may be encountered during construction, since the water table is fairly shallow in the project area. If groundwater accumulates such that has the potential to impede construction, it will need to be removed (pumped) from the trench and disposed either to the sanitary sewer or to the Lagoon, depending on agency preferences. There would thus be some potential for losses of groundwater during construction. Because project-related excavations would only be open for a short time, and would be comparatively small, however, the amount of groundwater potentially involved would also be very small. **Impacts, if any, related to involvement of groundwater during construction are therefore considered less than significant.** No mitigation is required.

Impact HWQ8 – Potential to Expose People or Structures to Tsunami, Seiche, Mudflow, or Dam Failure Inundation Hazards

As discussed in *Flood Risks* under *Existing Conditions*, the Project alignment is not considered subject to significant tsunami, seiche, or mudflow hazard but is within the dam failure inundation hazard zone associated with Lake Wohlford and Dixon Dam (City of Encinitas 2010). The Project would install a new access route that qualifies as a structure based on the broad and inclusive definition used in the City's Municipal Code (Chapter 30.04), which identifies a structure as any piece of work artificially built up or composed of parts joined together in some definite manner. However, the Project would not construct above-grade structures, does not propose to construct or modify structures for human occupancy, and—as discussed in Chapter 1—would not increase or relocate area populations. Consequently, the **proposed Project would not result in significant impacts under either CEQA or NEPA related to exposure to tsunami, seiche, mudflow, or dam failure inundation hazards.**

Significant Impacts and Mitigation Approaches

With incorporation of the Project's *Environmental Commitments* (discussed in Chapter 2), and regulatory oversight afforded by the resource agency and County permitting processes, no significant adverse impacts with regard to surface or groundwater hydrology, water quality, erosion/siltation, or floodway function have been identified for the proposed Project.

Action Alternatives

For the most part, impacts under the two action alternatives—Alternative 1 (Combination Access, Alternate Configuration) and Alternative 2 (Conventional Continuous Access, Plantable/Pervious Surface Treatments)—would be similar to those discussed above for the proposed Project. Although the location and footprint of the new access would differ from the proposed Project, the construction process would be essentially the same, and both action alternatives would incorporate the same environmental commitments and SWPPP requirements. Both action alternatives would likely also be subject to similar permit terms, if authorized, and, like the proposed Project, neither would require the use of groundwater.

Project outcomes would also be broadly similar: both action alternatives would result in relocating a portion of the OTS upstream of El Camino del Norte into Lone Jack Road, removing the siphon and 2 accompanying manholes, and rehabilitating remaining manholes along the Project alignment. Both action alternatives would also enable the City to inspect, clean, and maintain the entirety of the OTS between El Camino del Norte and Manchester Avenue, substantially reducing the potential for spills, failures, and overflows. As a result, the following impacts are expected to be essentially the same under the 2 action alternatives as under the proposed Project, for the same reasons that apply to the proposed Project.

- HWQ1, *Potential to Violate Water Quality Standards during Construction* – **less than significant under both CEQA and NEPA for both action alternatives**
- HWQ2, *Potential to Violate Water Quality Standards during Operations* – **less than significant under both CEQA and NEPA for both action alternatives**, with long-term benefit to water quality due to substantially improved avoidance of spill, failure, and sanitary sewer overflows (SSOs) all of which are reasonably foreseeable under existing and future No Action conditions
- HWQ4, *Potential to Increase Runoff On- or Offsite* – **no impact under either CEQA or NEPA for both action alternatives**
- HWQ5, *Potential to Result in Substantial Erosion or Siltation On- or Offsite* – **less than significant under CEQA and NEPA during the construction period, no long-term impact under CEQA or NEPA, for both action alternatives**
- HWQ6, *Potential to Interfere with Groundwater Recharge* – **no impact under CEQA or NEPA for either action alternative**
- HWQ7, *Potential to Deplete Groundwater Supplies* – **no impact under CEQA or NEPA for either action alternative** with regard to project use of groundwater; **less than significant impact under both CEQA and NEPA** for involvement of groundwater during construction
- HWQ8, *Potential to Expose People or Structures to Tsunami, Seiche, Mudflow, or Dam Failure Inundation Hazards* – **less than significant under both CEQA and NEPA for both action alternatives**

Impact HWQ3 (*Potential to Impede or Redirect Floodflows*) would also be very similar under Alternative 1 to what is described for the proposed Project. Like the proposed Project, Alternative 1 would entail no modification of existing channel or floodplain geomorphology; construction of the new access would require minor grading, but the finished grade would match the existing grade; there would be no change in topography. In addition, under Alternative 1 as under the proposed Project, the new access would be revegetated with a palette of native species very similar to existing site vegetation but focusing on low-growing herbaceous species to allow long-term drivability without the need for vegetation trimming. Over most of its length, therefore, the new Alternative 1 access would not decrease flood conveyance capacity, impede floodflows, or redirect floodflows. If anything, due to the emphasis on low-growing species, it could

locally decrease hydraulic roughness and improve conveyance at higher flood stages, similar to the proposed Project.

Also much like the proposed Project, Alternative 1 would install either an “engineered Arizona crossing” or an appropriately sized culvert with at-grade approaches where Level 5 improvements are needed to cross areas of perennial flowing or standing water. As shown in Figures 2-8a, through 2-8c, it would also entail more extensive Level 5 improvements traversing marshlands in the central and southerly portions of the alignment. Every effort would be made to design all Level 5 improvements to minimize the need for geomorphic modification while still providing reliable access, and this is expected to be feasible; although construction of the new access would require minor grading, the finished grade would match the existing grade, with no change in topography. **Impacts related to impedance or redirection of floodflows and elevation of the base flood level would thus be less than significant under both CEQA and NEPA for Alternative 1.**

Impact HWQ3 (*Potential to Impede or Redirect Floodflows*) would differ substantially under either of the Alternative 2 scenarios—Alternative 2A, which would construct a linear access following the City’s existing OTS easement; or Alternative 2B, which would follow the existing easement along much of the Project reach but would deviate from it to bypass particularly challenging and/or sensitive areas, as described in Chapter 2. Both the 2A and 2B scenarios would involve much more extensive construction within the axial portion of the Creek/Lagoon system, adjacent to or within active channels in many places. As a result, there would be a substantially greater need for Level 5 improvement under either of these scenarios, as shown in Figures 2-9a through 2-9c, and Figures 2-10a through 2-10c.

At the same time, however, because the access roadway would run parallel or subparallel to the prevailing channel orientation, the “engineered Arizona crossing” would be challenging to implement without geomorphic modification, and might not be feasible in some of the wettest areas. Culverting the axially oriented Level 5 segments would offer feasible all-weather passage, but is extremely undesirable from the perspective of habitat function and value, and would also require substantial geomorphic modification. Under either approach (2A or 2B), **Alternative 2 would thus have the potential for significant impacts under both CEQA and NEPA related to local impedance or redirection of floodflows. These effects were taken into account in developing the Alternative 2A and 2B footprints, and were avoided and reduced to the extent feasible via the preliminary design process. Consequently, these impacts are also considered unavoidable.** Alternative 2 is unlikely to require channel or floodplain modification sufficient to result in meaningful (1-foot or greater) increase in the base flood elevation; **impacts related to changes in the base flood elevation are therefore considered less than significant under both CEQA and NEPA for Alternative 2.**

No Project/No Action Alternative

Under the No Project/No Action Alternative, hydrology and water quality–related impacts would differ in several important regards by comparison with the proposed Project and action alternatives. The following paragraphs explain how and why.

Less than Significant Impacts

Impact HWQ1 – Potential to Violate Water Quality Standards during Construction

Under the No Project/No Action Alternative, no access would be constructed, there would be no realignment of the OTS above El Camino del Norte, none of the degraded manholes would be rehabilitated in the immediate future, and the siphon and all manholes would remain in place. **With no construction, there would be no immediate potential for impact under either CEQA or NEPA with regard to violation of water quality standards.**

Over the longer term, the aging manholes along the project reach of the OTS would continue to deteriorate, and it would eventually become necessary to rehabilitate them under a separate future project or projects. Based on recent condition inspections, this is expected to become a critical need within the foreseeable future. The timing, extent, and specific nature of activities is speculative at this time and therefore cannot be analyzed in detail in this document; however, any such future project would be a discretionary undertaking subject to CEQA/NEPA review and regulatory permitting at the time it is proposed.

Impact HWQ3 – Potential to Impede or Redirect Floodflows

Under the No Project/No Action Alternative, as discussed above, no access would be constructed, there would be no realignment of the OTS above El Camino del Norte, none of the degraded manholes would be rehabilitated in the immediate future, and the siphon and all manholes would remain in place. There would therefore be no installation, construction, or modification within the floodway, and **no impact under either CEQA or NEPA with regard to impedance of floodflows.**

HWQ4 – Potential to Increase Runoff On- or Offsite

Under the No Project/No Action Alternative, as the previous impact item identifies, no access would be constructed, there would be no realignment of the OTS above El Camino del Norte, none of the degraded manholes would be rehabilitated in the immediate future, and the siphon and all existing manholes would remain in place. There would therefore be no installation, construction, or modification within the floodway, and in particular no alteration of existing grades or slopes and no addition of hardscape; there would thus be **no impact under either CEQA or NEPA with regard to increased runoff on- or offsite.**

Impact HWQ5 – Potential to Result in Substantial Erosion or Siltation On- or Offsite

Under the No Project/No Action Alternative, as discussed in the previous two impact items, no access would be constructed, there would be no realignment of the OTS above El Camino del Norte, none of the degraded manholes would be rehabilitated in the immediate future, the siphon and all existing manholes would remain in place, and the City's current operations and maintenance program would continue unchanged. There would therefore be no installation, construction, or modification within the floodway, and in particular no clearing or ground-disturbing construction activity; there would also be no change from the current extent and nature of operational work occurring in the Creek/Lagoon corridor. There would thus be **no impact under either CEQA or NEPA with regard to substantial increases in erosion on- or offsite.**

Impact HWQ6 – Potential to Interfere with Groundwater Recharge

The No Project/No Action Alternative would install no new access or other facilities, and thus would have no potential to reduce groundwater recharge. **There would be no impact under either CEQA or NEPA related to interference with groundwater recharge.**

Impact HWQ7 – Potential to Deplete Groundwater Supplies

Under the No Project/No Action Alternative, the City's existing program of inspection, cleaning, and maintenance along the project reach of the OTS would continue unchanged. Cleaning activities would continue to use water, but no groundwater would be involved; water would continue to be obtained from local (SDWD and/or OMWD) potable water supply, which (see Chapter 11 for additional detail) does not include groundwater as a source. **There would be no impact under either CEQA or NEPA related to interference with groundwater recharge.**

Impact HWQ8 – Potential to Expose People or Structures to Tsunami, Seiche, Mudflow, or Dam Failure Inundation Hazards

As discussed in *Flood Risks* under *Existing Conditions*, the Project alignment is not considered subject to significant tsunami, seiche or mudflow hazard, but is within the dam failure inundation hazard zone

associated with Lake Wohlford and Dixon Dam (City of Encinitas 2010). However, the No Project/No Action Alternative would install no new access or other facilities and would have no potential to increase or relocate populations. It therefore would have **no impact under either CEQA or NEPA related to exposure to tsunami, seiche, mudflow, or dam failure inundation hazards.**

Significant Impacts and Mitigation Approaches

Impact HWQ2 – Potential to Violate Water Quality Standards during Operations

As identified in the previous impact item, under the No Project/No Action Alternative, no access would be constructed, there would be no realignment of the OTS above El Camino del Norte, none of the degraded manholes would be rehabilitated in the immediate future, and the siphon and all manholes would remain in place.

With no new access route and no realignment, the City's current program of inspections, cleaning, and maintenance would continue at the existing level. There would be **no potential for impacts under either CEQA or NEPA related to increased potential for violation of water quality standards due to operations and maintenance activities.**

However, as discussed in Chapters 1 and 2, recent condition assessments identified many of the manholes along the Project reach of the OTS as substantially degraded, with a significant I&I problem, and with the City's ability to clean the Project compromised by access challenges, the line is accumulating sediment such that several manholes are now nearing a condition of surcharge. There is a thus very real (reasonably foreseeable) potential for spill, overflow, or failure if the current deficiencies are not corrected, and such an event would adversely impact water quality in the Creek and/or Lagoon, with the potential to cause violation of water quality objectives for various contaminants, including but not limited to fecal coliform. Further degradation of unrehabilitated manholes could also ultimately lead to added sediment loading to the Creek and Lagoon, as manhole structures break down physically.

With no rehabilitation, no realignment, and no new access provided to enable a full program of inspections, cleaning, and maintenance, the No Project/No Action Alternative would thus have the **potential for significant impacts under both CEQA and NEPA relative to violation of water quality standards. Because these impacts would not be reliably averted without a separate future discretionary project or projects, they are also considered unavoidable.**

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Chapter 4

Biological Resources and Jurisdictional Habitat

Introduction

Chapter Overview

This chapter analyzes the Project’s potential to affect biological resources, including state- and federally protected (jurisdictional) habitat in Escondido Creek and San Elijo Lagoon, as well as endangered, threatened, candidate and other special-status species that use the Creek and Lagoon.

This chapter contains the following information:

- An overview of chapter preparation, including sources of baseline information and an explanation of the methods used to analyze impacts
- A description of existing conditions relative to vegetation types, habitat quality, and special-status species use in the Project area
- An overview of the laws, ordinances, policies, and planning documents that protect and regulate biological resources
- Analysis of potential impacts on native vegetation, habitat resources, and special-status species under the proposed Project, the 2 action alternatives, and the No Project/No Action Alternatives, including approaches to avoid or reduce (mitigate) potentially significant adverse impacts

As Chapter 1 identifies, in order to implement the Project, the City will need to obtain permit authorization under the federal and California Endangered Species Acts, as well as Sections 404 and 401 of the federal Clean Water Act, Section 1602 of the California Fish and Game Code, and the California Coastal Act. The Project is therefore subject to extensive regulatory oversight, including a requirement to incorporate extensive project-specific measures to avoid and reduce impacts on the special-status species that use the Project corridor, and requirements to compensate for the loss of habitat within the footprint of the new access route. Since the entire footprint is being treated as jurisdictional habitat, the habitat compensation requirement will include uplands as well as the wetland habitats that are typically protected through the Section 404 permit process.

Specifics of the compensation package—including offsets for habitat disturbed and lost to accommodate the new access route, as well as measures to avoid and minimize operational impacts on species and habitats once the new access is in use—are being developed in consultation with the resource agencies (Corps, USFWS, DFW, RWQCB, and Coastal Commission), County of San Diego, and Lagoon Conservancy, and will be established as binding requirements on the City through the Terms and Conditions of the various permits. Focusing these requirements through the regulatory avenue avoids potential conflicts between permit Terms and Conditions and CEQA/NEPA mitigation adopted in advance of permit issuance, providing more straightforward and unambiguous requirements and thus supporting more effective implementation. Additionally, permit Terms and Conditions will be included in the Project construction documents so they are contractually binding on the contractor(s) selected for Project implementation.

With the requirements imposed by regulatory and County permit Terms and Conditions in place, the Project is not expected to result in significant impacts on special-status plants or wildlife, sensitive natural

communities, or jurisdictional wetlands and waters. However, this chapter identifies additional mitigation that will be implemented to avoid impacts on nesting birds that do not qualify as Endangered or Threatened and are therefore not protected under the federal and state Endangered Species Acts.

How this Chapter Was Prepared

Assessment of Existing Conditions

Information on biological resources in the Project vicinity was derived from the following sources.

- Regulatory and academic databases, including the California Natural Diversity Database (CNDDB) (consulted 2012–2014), California Native Plant Society (CNPS) Electronic Inventory (accessed 2012–2014), and San Diego Natural History Museum Plant Atlas Data and Mapping (accessed 2012–2014)
- Reports prepared in support of the planned San Elijo Lagoon Restoration Project (see <http://www.sanelijo.org> for more information), generously shared by the San Elijo Lagoon Conservancy (AECOM 2011 and supporting vegetation mapping in ArcGIS format; AECOM 2014)
- Various planning documents, including the vegetation management plan for the San Elijo Lagoon ecological reserve (County of San Diego Parks and Recreation Department, San Elijo Lagoon Conservancy, and City Of Solana Beach 2009); the *Escondido Creek Watershed Restoration Action Strategy* (San Elijo Lagoon Conservancy 2005); the *North County Multiple Habitat Conservation Program* (MHCP) (SANDAG 2003) and *Draft Encinitas Subarea Plan* (Ogden Environmental and Energy Services Company and Conservation Biology Institute 2001); and the biological resources “current conditions report” prepared for the City’s General Plan update now in progress (City of Encinitas 2014)
- Field surveys conducted specifically for the proposed Project in 2012 and 2013, covering a designated Biological Survey Area (BSA) originally defined as the City’s existing OTS easement plus an additional 150-foot buffer on either side of the alignment for an approximately 300-foot-wide, 4-mile long corridor. The BSA was subsequently expanded to include the potential access spurs (under the proposed Project and alternatives) plus the 150-foot-wide buffer on each side. Field surveys comprised the following activities
 - Vegetation mapping and general reconnaissance biological survey. Vegetation mapping used a scale of 1:2,400 (1 inch = 200 feet). Habitats were classified based on the dominant and characteristic plant species in general accordance with the approach of Holland (1986), as modified by Oberbauer et al. (2008)
 - Documentation of wildlife use along the Project alignment. Wildlife species were detected by sight and/or based on calls, tracks, scat, or other signs. In addition to species observed during the surveys, expected wildlife use within the BSA was determined based on the distribution and known habitat preferences of local species
- Habitat suitability evaluation of area within BSA for Coastal California Gnatcatcher (CAGN) and Southwestern Willow Flycatcher (SWFL) nesting
- Focused (protocol-level) surveys for five listed bird species: Belding’s Savannah Sparrow (BSSP), CAGN, Least Bell’s Vireo (LBV), Light-footed Clapper Rail (LFCR; reclassified in 2014 as the Light-footed Ridgeway’s Rail [LFRR], which is the nomenclature used in this Draft EIR/EA), and SWFL. All focused surveys were conducted and reported consistent with the current applicable USFWS protocols. BSSP, CAGN, and LFCR focused surveys covered suitable habitat areas within the

300-foot-wide BSA. LBV and SWFL focused surveys covered all suitable habitat areas within the BSA plus an additional approximately 350-foot-wide buffer on each side

- Special-status plant surveys to augment and expand the area covered by the surveys conducted by AECOM for the San Elijo Lagoon Restoration Project in 2010. Special-status plant surveys were performed concurrently with general biological surveys and vegetation mapping.

Additional information on all of the field survey activities is provided in the Biological Resources Technical Report presented in Appendix D (Rocks Biological Consulting 2014). Please note that complete citations for standard reference sources cited in this chapter—e.g., Holland (1986)—are also included in Appendix D.

It was agreed during the early stages of Project planning that a formal delineation of jurisdictional habitat boundaries would not be needed, since almost all of the Project alignment (except for the portion within Manchester Avenue and part of the Lone Jack segment) is clearly within the Escondido Creek/San Elijo Lagoon floodway and thus falls within the “bed and bank” geomorphic limit that defines state (DFW) jurisdiction. All disturbance and loss of native vegetation will thus require appropriate mitigation, to which the City is committed. The extent and nature of mitigation for disturbance and loss of habitat will be determined based on the detailed vegetation mapping prepared for the Project and the impact acreages assessed through the Draft EIR/EA analysis. Mitigation will be subject to oversight by the Corps and USFWS in addition to DFW, due to the need for Section 404 and federal ESA authorization respectively.

Impact Analysis Methods

Impacts on vegetation—including but not limited to jurisdictional habitat—were evaluated quantitatively. Impact acreages were calculated in ArcGIS by overlaying the Project footprint over the detailed vegetation mapping conducted for the Project.

Impacts on special-status species and other wildlife were evaluated qualitatively based on the known and expected patterns of species usage within the BSA and the nature of the activities entailed in the Project’s construction and operational phases.

The Project would result in a significant impact under CEQA if it would lead to any of the following.

- A substantial adverse effect on a special-status species identified in local or regional plans, policies, or regulations, or by DFW or USFWS
- Substantial loss or degradation of habitat serving special-status species identified in local or regional plans, policies, or regulations, or by DFW or USFWS
- A substantial adverse effect on a sensitive natural community—such as riparian habitat—identified in local or regional plans, policies, or regulations, or by DFW or USFWS
- A substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marshes, vernal pools, tidal wetlands, etc.)
- Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors
- Substantial impedance of the use of native wildlife nursery sites
- Conflict with local policies or regulations protecting biological resources, such as a tree preservation ordinance

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habit conservation plan

Any of these outcomes would also represent an adverse effect under NEPA.

The Project would incorporate extensive construction-period and operational precautions to avoid the spread of invasive non-native plant species (see *Environmental Commitments* in Chapter 2). This topic is not discussed further.

Existing Conditions

The Project alignment occupies flat to gently sloping ground along Escondido Creek and within San Elijo Lagoon. Ground surface elevations within the BSA range from approximately 6 feet above mean sea level (MSL) near San Elijo Lagoon to approximately 50 feet MSL along Escondido Creek at the northern end of the alignment.

From MiraCosta College upstream, the Project alignment is within or immediately adjacent to the Escondido Creek/San Elijo Lagoon corridor; as such it is largely within wetland and riparian habitat, much of which is managed for conservation by the San Elijo Lagoon Conservancy and County of San Diego. The remainder of the alignment, from approximately Mira Costa College downstream to the Olivenhain Sewer Pump Station at the I-5 overcrossing, is within the paved Manchester Avenue roadway.

At the south end of the alignment, the BSA supports a diverse assemblage of vegetation, including several different marsh and riparian vegetation communities as well as upland habitats such as Diegan coastal sage scrub and non-native grassland. The north end of the BSA is dominated by rural residential and commercial development and associated ornamental plantings, although it flanks marshland and riparian habitat along the Creek. Habitats along the Escondido Creek, including those within the BSA, serve as part of a regional corridor linking open space along the coastline and in San Elijo Lagoon with large expanses of preserved open space located inland to the north, at Elfin Forest and around Lake Hodges.

Figures 2-5a through 2-5c, and other more detailed figures also included in the technical report, present the results of the vegetation mapping conducted for the proposed Project, and the following paragraphs provide additional information on each of the vegetation communities and other land cover types shown on the map.

The discussion of vegetation communities is followed by sections presenting information on general wildlife usage and the known and potential occurrence of special-status (rare or at-risk) species in Escondido Creek and San Elijo Lagoon.

Vegetation Communities in BSA

The BSA supports a total of 24 land cover types¹, listed and briefly described in Table 4-1. Of these, 16 are vegetation communities dominated by native species, and the remaining 8 comprise vegetation communities dominated by non-native species and various types of unvegetated ground. Abbreviations in Table 4-1 correspond to those used in Figures 2-5a through 2-5c. All of the habitat types identified as wetland vegetation communities are presumed to be state- and/or federally jurisdictional. The biological resources technical report in Appendix D (Rocks Biological Consulting 2014) contains additional information on the

¹ *Land cover* is a term used in mapping to refer to what is present at the ground surface—native vegetation, landscaping, agricultural crops, pavement, etc.

vegetation communities and other types of land cover present in the BSA. A complete list of the more than 170 plant species observed within the BSA is presented in Appendix D.

Table 4-1: Land Cover Types within BSA

Land Cover Type	Extent within BSA (Acres)	Description
<u>Wetland Vegetation Communities</u>		
Open Water (OW)	0.37	<i>Open water</i> refers to areas that typically support standing or flowing water year-round. Within the BSA, this includes two areas: the west edge of San Elijo Lagoon immediately east of I-5 and an open drainage slough that connects a horse pond with Escondido Creek just west of Rancho Santa Fe Road.
Alkali Marsh (AM)	37.90	Alkali marsh occurs in low-lying areas with a high (shallow) water table and saline/alkaline conditions. Evaporation of ponded water commonly results in salt deposits remaining on the surface, creating conditions suitable for plants adapted to saline environments. The growing and flowering season within alkali marsh is late spring through early fall. Alkali marsh typically consists of dense, low-growing vegetation. Species found in this vegetation community within the BSA are typical of the habitat, including alkali heath (<i>Frankenia salina</i>), Mexican rush (<i>Juncus arcticus</i> var. <i>mexicanus</i>), salt grass (<i>Distichlis spicata</i>), spearscale (<i>Atriplex prostrata</i>), yerba mansa (<i>Anemopsis californica</i>), cocklebur (<i>Xanthium strumarium</i>), salty Susan (<i>Jaumea carnosa</i>) and the special-status species (California Rare Plant Rank 4.2) southwestern spiny rush (<i>Juncus acutus</i> ssp. <i>leopoldi</i>).
Disturbed Alkali Marsh (AM-D)	2.92	Disturbed alkali marsh is similar to alkali marsh, described above, but supports a large admixture of non-native annual grasses such as ripgut brome (<i>Bromus diandrus</i>), red brome (<i>Bromus rubens</i>), and slender wild oat (<i>Avena barbata</i>).
Coastal Salt Marsh – Mid (CSM-M)	0.96	Coastal salt marsh occurs in wetland areas that are permanently influenced by marine salt/brackish water. Coastal salt marsh–mid is distinguished from high and low coastal salt marsh based on extent and duration of tidal inundation; areas of coastal salt marsh–mid receive greater inundation by salt/brackish water and are saltier and less diverse than coastal salt marsh–high. Coastal salt marsh is a highly productive association of salt-tolerant herbaceous and suffrutescent (semi-woody) hydrophytes that form a moderate to dense cover and can reach a height of up to 3 feet. The growing and flowering season for most species in this habitat is summer. Within the BSA, coastal salt marsh–mid was mapped based on the presence of Pacific pickleweed (<i>Salicornia pacifica</i>), salty Susan, and saltwort (<i>Batis maritima</i>).
Coastal Salt Marsh – High (CSM-H)	4.24	Coastal salt marsh–high is similar to coastal salt marsh–mid but is distinguished based on the shorter duration of tidal inundation; coastal salt marsh–high receives less inundation by salt/brackish water and is drier than coastal salt marsh–mid. As a result, this community supports a more diverse mixture of species, including alkali-heath, salt grass, alkali-weed (<i>Cressa truxillensis</i>), Pacific pickleweed, salty Susan, and southwestern spiny rush.

Land Cover Type	Extent within BSA (Acres)	Description
Coastal Salt Marsh – High/Goldenbush Scrub (CSM–H/GBS)	2.93	This mixed vegetation community is a unique assemblage of species, with goldenbush forming a shrubby “overstory” above the typical coastal salt marsh species Pacific pickleweed and salt grass.
Coastal Brackish Marsh (CBM)	10.49	Coastal brackish marsh occurs in wetland areas that are permanently influenced by brackish tidal water and is dominated by perennial emergent herbaceous vegetation up to 7 feet tall. Within the BSA, uniform stands of cattails (<i>Typha</i> spp.) and bulrushes (<i>Schoenoplectus</i> spp.) are the dominant species in this habitat.
Freshwater Marsh (FWM)	5.59	Freshwater marsh occurs in wetlands that are flooded by standing fresh water. This vegetation community is similar to coastal brackish marsh, but with the saline tidal influence absent. Freshwater marsh supports perennial emergent herbaceous vegetation to 7 feet tall. Within the BSA, this habitat is dominated by dense stands of cattails and bulrushes.
Freshwater Marsh/Alkali Marsh (FWM/AM)	4.73	This designation was used in a limited area where freshwater marsh and alkali marsh intergrade at a submappable scale, along the boundary between the two habitat types.
Mulefat Scrub/Freshwater Marsh (MFS/FWM)	0.17	This designation was used where mulefat scrub (see below) and freshwater marsh intergrade at a submappable scale. This habitat consists of a dense growth of mulefat (<i>Baccharis salicifolia</i>), cattails, and bulrushes.
Southern Riparian Scrub (SRS)	3.41	Regionally, southern riparian scrub varies from a dense, broad-leaved, winter-deciduous association dominated by several species of willow (<i>Salix</i> spp.) to an herbaceous scrub dominated by mulefat. Within the BSA, southern riparian scrub consists of dense arroyo willow (<i>S. lasiolepis</i>) and mulefat with little or no understory vegetation.
Southern Willow Scrub (SWS)	27.70	Southern willow scrub grows in seasonally or intermittently flooded area and is overwhelmingly dominated by one or more willow species such as arroyo willow, black willow (<i>S. gooddingii</i>), and/or red willow (<i>S. laevigata</i>) Within the BSA, southern willow scrub is dominated by arroyo willow with a much smaller component of black willow and mulefat. Scattered eucalyptus (<i>Eucalyptus</i> spp.) trees are also present.
Southern Willow Scrub/Freshwater Marsh (SWS/FWM)	4.91	This vegetation community is a dense association of southern willow scrub and freshwater marsh, with an overstory of tall arroyo willows and an understory of cattails and bulrushes.
Southern Willow Riparian Forest (SWRF)	4.65	Southern willow riparian forest is found within relatively broad drainages and floodplains with perennially wet streams. The overstory is generally more than 20 feet tall and may exhibit either an open or closed canopy. This habitat is dominated by tall, mature individuals of winter deciduous trees, including black willow, red willow and western cottonwood (<i>Populus fremontii</i> var. <i>fremontii</i>), often with a dense understory of shrubby red and arroyo willows, mulefat, and mugwort (<i>Artemisia douglasiana</i>). Within the BSA, southern willow riparian forest is dominated by tall, dense willow growth with scattered eucalyptus encroaching from adjacent eucalyptus woodland. It is distinguished from southern riparian scrub because of the

Land Cover Type	Extent within BSA (Acres)	Description
Total acreage of wetland vegetation communities within BSA	111.04	overwhelming dominance of tall, mature willows, with few other tree species.
<u>Upland Vegetation Communities</u>		
Diegan Coastal Sage Scrub (DCSS), Diegan Coastal Sage Scrub, Disturbed (DCSS-D)	3.39, 4.38	Diegan coastal sage scrub is comprised of low growing, aromatic, soft-woody shrubs to about 4-feet tall, many of which are facultatively drought-deciduous. The typical species assemblage consists of California sagebrush (<i>Artemisia californica</i>), California buckwheat (<i>Eriogonum fasciculatum</i>), laurel sumac (<i>Malosma laurina</i>), lemonadeberry (<i>Rhus integrifolia</i>), and black and white sage (<i>Salvia mellifera</i> and <i>S. apiana</i>). This collection of species is typically found on dry, south-facing slopes or clay-rich soils that are slow to release stored water. Areas where Diegan coastal sage scrub has been disturbed by previous clearing or other activity were mapped as disturbed Diegan coastal sage scrub. This community contains the same dominant shrubs as Diegan coastal sage scrub, but includes disturbed areas with a higher percentage of weedy species such as ripgut brome, short-pod mustard (<i>Hirschfeldia incana</i>), and fennel (<i>Foeniculum vulgare</i>).
Goldenbush Scrub (GBS)	7.87	Goldenbush scrub is a subtype of coastal sage scrub dominated by goldenbush (<i>Isocoma menziesii</i> var. <i>menziesii</i>). This subtype typically occurs after disturbance or vegetation clearing.
Eucalyptus Woodland (EUC)	8.76	Eucalyptus woodland is characterized by dense stands of nonnative eucalyptus (gum) trees (<i>Eucalyptus</i> spp.). Eucalyptus trees provide some wildlife habitat value within the BSA as they support nesting colonies of great blue heron (<i>Ardea herodias</i>) and great egret (<i>A. alba</i>). However, eucalyptus trees can degrade wetland communities by crowding out and excluding native riparian species. The San Elijo Lagoon Conservancy is working to reduce the abundance and extent of eucalyptus growth in the Lagoon (Gibson pers. comms. 2012–2013).
Non-Native Grassland (NNG)	4.49	Non-native grassland is a disturbance-related community that most commonly occurs in formerly cultivated fields and in openings within native scrub habitats. Within the BSA, this habitat is comprised primarily of ripgut brome, red brome, slender wild oat, Bermuda grass (<i>Cynodon dactylon</i>), and soft chess (<i>Bromus hordeaceus</i>). Broad-leaved forbs such as tecolote (<i>Centaurea melitensis</i>), short-pod mustard, and filaree (<i>Erodium cicutarium</i>) are also locally present.
<u>Other Land Cover Types</u>		
Agriculture (A)	3.92	This designation was used for actively cultivated lands at the west end of the BSA, on the north side of Manchester Avenue. This area has typically been used for strawberry production.

Land Cover Type	Extent within BSA (Acres)	Description
Developed (DEV)	64.78	These designations were used for developed areas that support little or no native vegetation. Developed areas within the BSA support built features such as buildings, roads, and other paved/hardscaped surfaces. Areas mapped as developed/ornamental include primarily the non-native landscape and garden plantings adjacent to houses, roads, and other development
Developed/Ornamental (DEV/ORN)	48.90	
Ornamental (ORN)	2.06	Ornamental vegetation typically consists of non-native landscape and/or garden species that were planted in association with buildings, roads, and developments or have escaped cultivation and occur within native habitats. Several patches of ornamental vegetation are present within the BSA. Species present include mousehole tree (<i>Myoporum laetum</i>), golden wattle (<i>Acacia longifolia</i>), Brazilian pepper tree (<i>Schinus terebinthifolius</i>), eucalyptus, Canary Island date palm (<i>Phoenix canariensis</i>), and hottentot fig (iceplant) (<i>Carpobrotus edulis</i>).
Ruderal (RUD)	3.87	Ruderal habitat typically develops on sites with heavily compacted soils following high intensity disturbance such as grading. This disturbance-related community is dominated by broad-leaf herbaceous species with less than 50% cover of non-native grasses. Ruderal areas within the BSA support short-pod mustard, fennel, wild radish (<i>Raphanus sativus</i>), horsetweed (<i>Conyza</i> spp.), tecolote, and poison-hemlock (<i>Conium maculatum</i>).
Total acreage of upland and other land cover types	152.42	

Wildlife Use in the BSA

The BSA, and the Creek and Lagoon in general, offer diverse, high-quality habitat that supports a wide range of wildlife. During the surveys conducted for the Project, a total of 117 species of birds, 7 species of mammals, and 5 species of reptiles and amphibians were documented as present in the BSA, based on direct observation or the presence of characteristic tracks and/or scat. These include common bird species such as Song Sparrow (*Melospiza melodia*), California Towhee (*Melospiza crissalis*), and Clark’s Marsh Wren (*Cistothorus palustris clarkae*); larger mammals such as mule deer (*Odocoileus hemionus*); and invasive species, including Brown-headed Cowbird (*Molothrus ater*).

Special-Status Species in the BSA

Special-status species are plants and animals that are recognized as rare or at-risk. In California, special-status species are generally considered to include those that are

- Listed as **threatened** or **endangered** under the federal Endangered Species Act (ESA)
- Listed as **threatened** or **endangered** under the California Endangered Species Act (CESA)
- Identified as **candidates** or formally **proposed for listing** under either ESA or CESA
- **Fully Protected** under the California Fish and Game Code
- Considered **Species of Special Concern** by the California Department of Fish and Wildlife (DFW)
- Included on the U.S. Fish and Wildlife Service’s (USFWS’s) current **Birds of Conservation Concern** list

- Covered as a state-protected furbearing mammal per 14 CCR §460 or otherwise **protected by California law**
- Considered a rare plant and assigned a **California Rare Plant Rank** by the California Native Plant Society (CNPS)

A total of 19 special-status species are known to occur within the BSA, and an additional 31 may be present, as summarized in Table 4-2. This includes 7 plant species and 43 wildlife species; special-status fishes are not known to use San Elijo Lagoon or Escondido Creek. Of particular concern are the following 4 birds known to be present in or in the immediate vicinity of the BSA.

- **Coastal California Gnatcatcher** (*Polioptila californica californica*) (CAGN), which is federally listed as threatened and is considered a California Species of Special Concern. Approximately 157 acres of USFWS-designated critical habitat² for CAGN is present within the BSA. Critical habitat for CAGN is also present adjacent to both sides of the BSA
- **Least Bell's Vireo** (*Vireo belli pusillulus*) (LBVI), which is state- and federally listed as endangered. LBVI is restricted to riparian woodlands and is particularly threatened by habitat loss; the San Elijo Lagoon Conservancy is actively engaged in developing an LBVI corridor within Escondido Creek
- **Light-Footed Ridgway's Rail** (*Rallus obsoletus levipes*) (LFRR), formerly known as the Light-Footed Clapper Rail (*Rallus longirostris levipes*) (LFCR), which is state- and federally listed as endangered. Suitable habitat for LFCR is present within the BSA in San Elijo Lagoon from I-5, upstream to Rancho Santa Fe Road. No habitat was identified in the BSA north of Rancho Santa Fe Road to El Camino De Norte, or in the spurs perpendicular to the main alignment.
- **Belding's Savannah Sparrow** (*Passerculus sandwichensis beldingi*) (BSSP), which is state-listed as endangered and is one of a few species of birds that reside year-round in the coastal salt marshes of southern California. This species has been well-documented in San Elijo Lagoon since at least the late 1980s, and surveys conducted for the Project identified three BSSP nesting territories within the eastern side of the BSA, with at least six additional territories within 250 feet of the BSA boundary

Table 4-2: Known and Potential Special-Status Species Use within BSA

Species Name	Status	Habitat	Potential to Occur in BSA
<i>Plants</i>			
San Diego marsh-elder <i>Iva hayesiana</i>	CRPR 2B.2 (moderately threatened in California but more common elsewhere)	Perennial herb found along ephemeral drainages, in alkali marshes, and on playas at elevations between 30 and 1,640 feet MSL	Present Small populations occur next to the Rancho Santa Fe Road bridge, south of El Camino Del Norte, and along Lone Jack Road

² *Critical habitat* refers to a specific geographic area, or areas, that contain features essential for the survival and recovery of endangered and threatened species. Designated by USFWS as part of the listing process under the federal ESA, critical habitat may include areas that are currently used for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter. Critical habitat may also include areas that are not currently occupied by the species, but will be needed for its recovery. Critical habitat is subject to protection and special management to preserve and recover characteristics essential for species survival, such as soil resources, the quality and availability of water supply, vegetation communities and resources, host species, prey species, pollinators, sunlight, and other factors.

Species Name	Status	Habitat	Potential to Occur in BSA
Southwestern spiny rush <i>Juncus acutus</i> ssp. <i>leopoldii</i>	CRPR 4.2 (limited distribution; moderately threatened in California)	Rhizomatous herb found along ephemeral drainages, in alkaline marshes and seeps, in mesic areas of coastal dunes, and in areas of coastal salt marsh at elevations between 10 and 2,955 feet MSL	Present Southwestern spiny rush is the dominant species within some of the alkali and coastal salt marsh primarily in the southern portion of the BSA. This species also occurs in small clusters and as scattered individuals upstream along Escondido Creek. Several hundred individuals are present within the BSA
Torrey pine <i>Pinus torreyana</i> ssp. <i>torreyana</i>	CRPR 1B.2	Evergreen tree found on sandstone substrate in chaparral and closed-cone conifer forest at elevations of 245 – 525 feet MSL	Present A single large tree is present along the edge of the BSA near Manchester Avenue
Palmer's sagewort <i>Artemisia palmeri</i>	CRPR 4.2	Deciduous shrub found in sandy, mesic areas within chaparral, coastal sage scrub, and riparian habitats at elevations of 45 – 3,000 feet MSL	Moderate potential Suitable habitat is present within the BSA and this species was documented west of I-5 in San Elijo Lagoon in 2010
Palmer's grappling-hook <i>Harpagonella palmeri</i>	CRPR 4.2	Annual herb found on clay soils in chaparral, coastal sage scrub, grassland, and disturbed areas at elevations of 65 – 3,135 feet MSL	Moderate potential Suitable habitat is present within the BSA and this species is known to occur in non-native grassland east of the BSA
Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	CRPR 1B.1	Annual herb found in coastal salt marsh, playas, and vernal pools at elevations from near sea level to about 4,000 feet MSL	Moderate potential The BSA offers limited areas of suitable habitat
Short-lobed broomrape <i>Orobanche parishii</i> ssp. <i>brachyloba</i>	CRPR 4.2	Parasitic perennial herb found in areas of sandy soil associated with coastal bluff scrub, coastal dunes, and coastal sage scrub at elevations between 10 and 1,000 feet MSL	Moderate potential This species is parasitic on goldenbush (<i>Isocoma menziesii</i>) which is prevalent within the BSA
<u>Invertebrates</u>			
Wandering skipper <i>Panoquina errans</i>	DFW Special Animals List	Restricted to estuarine and tideland habitats where adults are often associated with salt grass (<i>Distichlis spicata</i>)	High potential; if present, has potential to breed Suitable habitat is present within the BSA, and 13 individuals were observed west of the BSA in San Elijo Lagoon during surveys conducted for the Lagoon restoration project in 2010
Western beach tiger beetle <i>Cicindela latesignata</i>	DFW Special Animals List	Coastal salt marshes and mud flats	Moderate potential; if present, has potential to breed Suitable coastal salt marsh habitat is present within or adjacent to the BSA
Senile tiger beetle <i>Cicindela senilis frosti</i>	DFW Special Animals List	Coastal salt marshes, tidal mud flats, and interior alkali mudflats	Moderate potential; if present, has potential to breed Suitable coastal salt marsh habitat is present within or adjacent to the BSA

Species Name	Status	Habitat	Potential to Occur in BSA
Monarch butterfly <i>Danaus plexippus</i>	DFW Special Animals List	Coastal sage scrub, non-native grassland, or disturbed habitat supporting host plants (<i>Asclepias</i> spp.) required by larval stage	Moderate potential; if present, has potential to breed May occur in association with larval host plants present in residential landscaping
Mimic tryonia (California brackishwater snail) <i>Tryonia imitator</i>	DFW Special Animals List	Brackish and freshwater systems near the coast	Moderate potential; if present, has potential to breed Suitable habitat is present within the BSA
<u>Reptiles and Amphibians</u>			
Orange-throated whiptail <i>Aspidoscelis hyperythra beldingi</i>	DFW Species of Special Concern	Uses a variety of habitats including sage scrub, chaparral, and coniferous and broadleaf woodlands. Typically found on sandy or friable soils with open scrub	Present; has potential to breed This species was observed within the BSA during the 2013 field surveys
Silvery legless lizard <i>Anniella pulchra</i>	DFW Species of Special Concern	Found on loose soil in coastal dunes, chaparral, pine-oak woodland, and riparian habitat	High potential; if present, has potential to breed Suitable habitat is present and this species has been documented elsewhere in San Elijo Lagoon
San Diego coast horned lizard <i>Phrynosoma blainvillii</i>	DFW Species of Special Concern	Found in a variety of habitats, including sage scrub, chaparral, and coniferous and broadleaf woodlands; requires open areas, bushes, and fine loose soil	High potential; if present, has potential to breed Suitable habitat is present in coastal sage scrub and adjacent disturbed habitats within the BSA
Coronado skink <i>Plestiodon skiltonianus interparietalis</i>	DFW Species of Special Concern	Most commonly found underneath bark or rocks, occasionally occasional seen in open areas	High potential; if present has potential to breed Suitable habitat is present within the BSA, and this species was observed south of the Lagoon prior to 2002
Two-striped gartersnake <i>Thamnophis hammondi</i>	DFW Species of Special Concern	Uses aquatic habitats, preferring rocky streams with protected pools, cattle ponds, marshes, vernal pools, and other shallow bodies of water lacking large aquatic predators	High potential; if present has potential to breed The BSA offers extensive areas of suitable habitat and this species is likely present
Coastal whiptail <i>Aspidoscelis tigris stejnegeri</i>	DFW Special Animals List	Found on friable loose soil in a variety of rocky, sandy, dry habitats, including sage scrub, chaparral, and woodlands	Moderate potential; if present, has potential to breed Suitable habitat is present within the BSA.
Red-diamond rattlesnake <i>Crotalus ruber</i>	DFW Species of Special Concern	Found in chaparral, coastal sage scrub, along creek banks, and in rock outcrops and piles of debris, often in associated with dense vegetation in rocky areas	Moderate potential; if present, has potential to breed Suitable habitat is present within the BSA

Species Name	Status	Habitat	Potential to Occur in BSA
Coast patch-nosed snake <i>Salvadora hexalepis virgulata</i>	DFW Species of Special Concern	Inhabits semi-arid brushy areas and chaparral in from below sea level to around 7,000 feet MSL	Moderate potential; if present, has potential to breed Suitable habitat present is present within the BSA, but the closest documented occurrence is at Del Dios Open Space Reserve approximately 9 miles to the northeast
Western spadefoot <i>Spea hammondi</i>	DFW Species of Special Concern	Found in temporary ponds, vernal pools, and backwaters of slow-flowing creeks; burrows in adjacent upland habitats such as grasslands and coastal sage scrub	Moderate potential; if present, has potential to breed Suitable backwater ponds and slow-moving reaches are present along Escondido Creek
<i>Birds</i>			
Cooper's Hawk <i>Accipiter cooperi</i>	DFW Watch List (nesting)	Typically nests in oak woodlands but occasionally also uses willow or eucalyptus woodlands	Present; nesting use is presumed This species was documented throughout the BSA during the 2013 field surveys and the BSA offers extensive areas of potential nesting habitat
Great Egret <i>Ardea alba</i>	DFW Special Animals List	Nests high in trees on a platform of sticks; often uses eucalyptus in San Diego County, but may also use Torrey pines and coast live oaks	Present; known to nest adjacent to BSA A nesting colony of Great Egrets is present just east of the BSA in a tall eucalyptus tree south of Rancho Santa Fe Road
Great Blue Heron <i>Ardea herodias</i>	DFW Special Animals List	Builds stick nests in trees, adding to them annually. Typically forage within 5 miles of their colonies	Present; known to nest adjacent to BSA A nesting colony of Great Blue Herons is present just east of the BSA in a tall eucalyptus tree south of Rancho Santa Fe Road (near the Great Egret nesting colony)
Northern Harrier <i>Circus cyaneus</i>	DFW Species of Special Concern (nesting)	Breeds predominantly in wetland habitats, but will also use upland habitats. Uses grasslands and agricultural fields during migration and in winter	Present; may nest in BSA Observed during field surveys, and suitable nesting and foraging habitat occurs throughout the BSA
Olive-sided Flycatcher <i>Contopis cooperi</i>	USFWS Bird of Conservation Concern DFW Watch List (nesting)	Typically uses conifer woodlands	Present; not expected to nest in BSA Observed during field surveys in 2013, likely during migration; BSA does not offer suitable nesting habitat
White-tailed Kite <i>Elanus leucurus</i>	California Fully Protected Species (nesting and wintering)	Prefers riparian woodlands, oak groves, or sycamore groves, adjacent to grasslands	Present; likely to nest in BSA A pair of white-tailed kites was seen consistently within the BSA during surveys conducted for the Project, and a probable nest site was observed. Suitable nesting and foraging habitat occurs throughout the BSA

Species Name	Status	Habitat	Potential to Occur in BSA
Peregrine Falcon <i>Falco peregrinus</i>	USFWS Birds of Conservation Concern List DFW Fully Protected Species (nesting)	Uses a wide range of habitats, locally including seacoasts and open forested regions, especially where there are suitable nesting cliffs	Present; unlikely to nest in BSA This species was observed hunting over open water immediately east of the BSA in February 2013 but is likely a migrant or winter visitor; the BSA does not offer suitable nesting habitat
Yellow-breasted Chat <i>Icteria virens</i>	DFW Species of Special Concern (nesting)	Occurs in riparian woodland with dense undergrowth	Present; may nest in BSA Numerous singing males were documented within the BSA along Escondido Creek, often in close proximity to yellow warblers
Osprey <i>Pandion haliaetus</i>	DFW Watch List (nesting)	Primarily along rivers, lakes, reservoirs, and seacoasts. Uses a wide variety of settings for nesting, including trees, dead snags, and utility poles, usually near or above water	Present; may nest in BSA Ospreys were observed foraging over the open water areas of San Elijo Lagoon west and south of the BSA, and the BSA offers suitable nesting habitat
Summer Tanager <i>Piranga rubra</i>	DFW Species of Special Concern (nesting)	Inhabits the Mojave Desert and riparian woodlands that contain dense cotton wood canopy. Winters in coastal lowlands	Present; may nest in BSA This species was observed during 2013 field surveys
Coastal California Gnatcatcher <i>Polioptila californica</i>	USFWS Threatened DFW Species of Special Concern	Along the coastal slope, occurs in Diegan coastal sage scrub dominated by California sagebrush and flat-topped buckwheat below 1,000 feet MSL along the coastal slope.	Present; presumed to nest in BSA A total of 6 coastal California gnatcatchers were documented within or immediately adjacent to the BSA during the 2013 protocol surveys
Light-footed Ridgway's Rail <i>Rallus obsoletus levipes</i>	USFWS Endangered DFW Endangered DFW Fully Protected Species	Found in southern California in coastal salt marshes, especially those dominated by cordgrass	Present; presumed to nest in BSA This species was documented within the BSA during protocol surveys in 2013
Yellow Warbler <i>Setophaga petechia</i>	USFWS Birds of Conservation Concern List DFW Species of Special Concern (nesting)	Restricted to mature riparian woodlands consisting of cottonwood, willow, alder, and ash trees	Present; presumed to nest in BSA Numerous pairs of yellow warbler were documented within the BSA along Escondido Creek during surveys for the Project
Least Bell's Vireo <i>Vireo bellii pusillus</i>	USFWS Endangered DFW Endangered (nesting)	Found in riparian woodland with willow canopy and understory of dense young willows or mulefat	Present; likely to nest in BSA This species was documented nesting in dense willow trees just east of the BSA during 2013 protocol surveys
Sharp-shinned Hawk <i>Accipiter striatus</i>	DFW Watch List	Uses a variety of vegetation communities and land cover types. Typically prefers areas with dense cover	High potential; unlikely to nest in BSA The BSA offers suitable migratory and wintering habitat for this species, but evidence of breeding activity in San Diego County is minimal
Belding's Savannah Sparrow <i>Passerculus sandwichensis beldingi</i>	DFW Endangered	Year round resident of pickleweed dominated coastal salt marsh in southern California	High potential; if present, may breed in BSA This species was documented nesting immediately adjacent to the BSA during the 2013 focused surveys, and San Elijo Lagoon supports a well-documented breeding population

Species Name	Status	Habitat	Potential to Occur in BSA
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i>	USFWS Endangered DFW Endangered (nesting)	Inhabits riparian forest and woodland with structural diversity, often with open water	Moderate potential; may nest in BSA Known to be present in proximity to BSA but Southwestern Willow Flycatcher nesting has never been confirmed along Escondido Creek
Least Bittern <i>Ixobrychus exilis</i>	DFW Species of Special Concern (nesting)	Freshwater or brackish marshes with tall emergent vegetation	Moderate; may nest in BSA Least bitterns are known to have nested in the vicinity of San Elijo Lagoon in the past, but nesting was last documented in 1982
Loggerhead Shrike <i>Lanius ludovicianus</i>	USFWS Birds of Conservation Concern List DFW Species of Special Concern (nesting)	Resident bird in San Diego County within grassland, chaparral, desert, and desert edge scrub, particularly near dense vegetation used for nesting	Moderate potential; may nest in BSA This species was last detected in the vicinity of San Elijo Lagoon in 2002, but the BSA continues to offer suitable habitat, and the species is known to winter in the region
<i>Mammals</i>			
Southern mule deer <i>Odocoileus hemionus fuliginata</i>	DFW Harvest Species	Found in coniferous forests, desert scrub, chaparral, and grassland with shrubs	Present; may breed in BSA During surveys conducted for the Project, this species was seen consistently within the BSA in small herds
California (western) mastiff bat <i>Eumops perotis californicus</i>	DFW Species of Special Concern	Uses chaparral, live oaks, and arid, rocky regions. Requires downward-opening crevices for roosting	High; if present, may breed in BSA Suitable breeding and foraging habitat is present within the BSA
Western red bat <i>Lasiurus blossevillii</i>	DFW Species of Special Concern	Feeds over grasslands, shrublands, open woodlands, forests, and croplands. Roosts primarily in trees and, at times, shrubs, often in edge habitats along streams, fields, or bordering urban areas	High; if present, may breed in BSA Suitable habitat is present within the BSA and this species has been documented west of the BSA in San Elijo Lagoon
Yuma myotis <i>Myotis yumanensis</i>	DFW Special Animals List	Feeds over ponds, streams, and lakes; closely associated with water	High; if present, may breed in BSA Suitable foraging habitat is present within and adjacent to the BSA
Northwestern San Diego pocket mouse <i>Chaetodipus fallax</i>	DFW Species of Special Concern	Inhabits coastal sage scrub, sage scrub/grassland ecotones, and chaparral communities	Moderate; if present, may breed in BSA A limited extent of suitable coastal sage scrub and grassland is present within the BSA, and this species has been recorded west of the BSA in San Elijo Lagoon
Mexican long-tongued bat <i>Choeronycteris mexicana</i>	DFW Species of Special Concern	In San Diego County, this species occurs primarily in urban areas	Moderate; if present, may breed in BSA Suitable breeding and foraging habitat is present within the BSA
Mountain lion <i>Felis concolor</i>	DFW legally protected species	This wide-ranging species inhabits rugged mountains, forests, deserts, and swamps	Moderate; if present, may breed in BSA Suitable breeding and foraging habitat is present in the riparian and upland portions of the BSA, and this species'

Species Name	Status	Habitat	Potential to Occur in BSA
San Diego black-tailed jackrabbit <i>Lepus californicus</i>	DFW Species of Special Concern	Typical habitats include early stages of chaparral, open coastal sage scrub, and grasslands near the edges of brush	preferred prey (southern mule deer) is abundant within the BSA and adjacent habitat Moderate; if present, may breed in BSA Small areas of low-quality habitat are present within the BSA
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	DFW Species of Special Concern	Common to abundant in several habitats, including chaparral and sagebrush	Moderate; if present, may breed in BSA Small areas of suitable breeding and foraging habitat occur in coastal sage scrub and chaparral habitat within the BSA
Pacific pocket mouse <i>Perognathus longimembris pacificus</i>	USFWS Endangered DFW Species of Special Concern	Inhabits shrublands with firm, fine-grained, sandy substrates in the immediate vicinity of the ocean, including areas of coastal strand, coastal dunes, river alluvium, and coastal sage scrub habitat on marine terraces	Moderate; if present, may breed in BSA Potentially suitable breeding and foraging habitat is present near the BSA. The nearest CNNDDB record is from 2002 approximately 0.5 mile northeast of the BSA

Source: Rocks Biological Consulting 2014 (Appendix D of this Draft EIR/EA)

Regulatory Setting

Biological resources—plants, fish, birds, wildlife, and their habitats and communities—are protected and regulated at the federal, state, and local levels.

At the federal level, overarching protection is established by the Endangered Species Act and the Fish and Wildlife Coordination Act, with more focused protections afforded under the Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, Magnuson-Stevens Fishery Conservation and Management Act, and Marine Mammal Protection Act.

Important safeguards at the state level are provided by the California Endangered Species Act, California Native Plant Protection Act, Oak Woodlands Conservation Act, and other sections of the California Fish and Game Code. In addition, the Governor’s Office of Planning and Research (OPR) recommends that cities and counties consider issues related to open space and conservation in developing General Plan land use policies; topics identified as relevant include the nature and distribution of “unique water resources” such as marshes, rivers, streams, and lakes; the distribution of rare, threatened, and endangered plants; the distribution and needs of fish and wildlife; and the locations of key wildlife habitat and migration corridors (see Office of Planning and Research 2011). Besides the *Land Use* element, two of the other six required General Plan elements or chapters (*Conservation* and *Open Space*) also touch on concerns related to biological resources, and many jurisdictions, including the County of San Diego and other SANDAG member jurisdictions, have adopted conservation-oriented policies and begun to undertake programmatic conservation planning.

The following sections describe the federal and state regulations most relevant to the project and the regional, County, and City plans, ordinances, and policies that apply to the project area. Lands within the City are subject to City ordinances and General Plan policies, and lands in the unincorporated County are subject to County ordinances, plans, and policies, including the County’s Multiple Species Conservation Program.

Federal Regulations

Endangered Species Act

Signed into law in 1973, the federal Endangered Species Act (ESA) (16 USC §1531 et seq.) provides the nation's most comprehensive protection for at-risk plants, fish, and wildlife, and their habitats. The ESA establishes a landmark policy requiring that all federal departments and agencies "shall seek to conserve endangered and threatened species". It also provides the means to ensure that the policy is translated into action by establishing a process for identifying and formally "listing" species, subspecies, and populations that qualify as *endangered* (in danger of extinction in all or a significant portion of their range) or *threatened* (likely to become endangered in the near future). Recognizing that a species cannot be preserved outside the context of its ecosystem, the ESA also requires the designation of *critical habitat* for each listed species; this designation refers to the habitat determined to be essential to the species' conservation and potentially requiring special management and/or protection. The ESA is administered by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS); USFWS has jurisdiction for terrestrial and freshwater species, and NMFS is responsible for marine and anadromous species.

Once species are listed as endangered or threatened, they are protected by the ESA's prohibitions on *take*, defined as including a wide variety of harmful activities ranging from harassment to wounding and killing, as well as the attempt to engage in any such conduct. The ESA also generally prohibits removal, digging up, cutting, and maliciously damaging or destroying federally listed plants on sites under federal jurisdiction.

However, the ESA does establish processes to enable limited take of listed species if the take occurs as a corollary of otherwise legal activities and is not the purpose of the activities; this is referred to as *incidental take*. Under ESA §10[1][1][B], nonfederal entities (i.e., local jurisdictions, businesses, and individuals) may obtain permits for incidental take subject to federal agency approval of a habitat conservation plan (HCP) that analyzes the extent and effects of the anticipated take and describes the measures that will be taken to avoid, minimize, and compensate for it. ESA §7 establishes a parallel process to authorize incidental take for activities with federal agency involvement; this requires consultation between the federal agency undertaking, permitting, or funding the proposed activities and the agency with jurisdiction over the affected species (either USFWS or NMFS); and preparation of a biological assessment that evaluates the anticipated take and identifies avoidance and minimization measures. Approval of the biological assessment by USFWS or NMFS is followed by issuance of a biological opinion that formalizes the terms and conditions under which take may occur. In either case, the decision to issue a take permit is considered discretionary and requires compliance with the National Environmental Policy Act (NEPA).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of (MBTA) of 1918 (16 USC §§703–712 et seq.) implemented a prior agreement between the United States and Great Britain (for Canada) for the protection of migratory birds. Subsequent amendments implemented similar protective treaties with Mexico, Japan, and the former Soviet Union.

The central function of the MBTA is to prevent harm to migratory birds, their nests, and their eggs; to that end, it prohibits pursuit, hunting, take, possession, sale, purchase, shipment, delivery, and export except in limited circumstances, for which permits are required, such as scientific collecting, falconry, and "special purposes" such as education, rehabilitation, and migratory game bird propagation. The MBTA also establishes seasons and bag limits for species that are hunted. An important 1976 amendment to the Act extended its protection to the ecosystem level by ratified an agreement with the Soviet Union committing both nations to take measure to protect ecosystems identified as having special importance to migratory birds against pollution and other forms of environmental degradation. Violation of the MBTA's provisions may constitute a felony if committed "knowingly." Both misdemeanor and felony convictions under the Act are punishable by imprisonment or fines.

Migratory birds are those that relocate from one region to another to take advantage of different habitat opportunities during different seasons, or to complete different stages of their life cycle. In total, the MBTA protects more than 800 species; this number includes many that are protected under other regulations, including the federal ESA, but part of the MBTA's importance is that it extends protection to a large number of common species that are not otherwise regulated.

Bald and Golden Eagle Protection Act

Originally enacted in 1940 and amended several times in subsequent years, the Bald and Golden Eagle Protection Act (16 USC §§668–668c) prohibits and criminalizes the take, possession, sale, barter, transport, and import/export of bald and golden eagles, their parts, their nests, and their eggs. *Take* is defined in the Act as including pursuit, shooting, poisoning, wounding, killing, capturing, trapping, collecting molesting, and disturbance. The Act's definition of *disturbance* includes direct disturbance resulting in injury, "decrease in productivity" due to substantial interference with normal breeding, feeding, or sheltering behavior, and nest abandonment; as well as indirect disturbance due to habitat modifications that interfere with normal activities and/or lead to nest abandonment.

USFWS may grant exceptions for scientific activities and for traditional cultural uses by Native Americans, but no permits may be issued for import, export, or commercial activities involving eagles. Violations of the Act may result in fines of up to \$100,000 for individuals and \$200,000 for organizations; penalties increase with repeated offenses, and a second violation of the Act is an automatic felony.

Fish and Wildlife Coordination Act

In its original 1934 form, the Fish and Wildlife Coordination Act authorized the Secretaries of Agriculture and Commerce to assist federal and state agencies in efforts related to the protection, rearing, and stocking of game and fur-bearing mammals; and the study of the effects of pollutants, such as domestic sewage and industrial waste, on wildlife. The Act in its original form also required consultation with the Bureau of Fisheries, a precursor to USFWS, prior to the construction of new dams, and further required the Bureau of Fisheries to use impounded waters for fisheries culture and migratory bird habitat.

Several substantive amendments since the Act's original passage have expanded it to its present status as the cornerstone of the present USFWS and NMFS jurisdiction over the fish and wildlife impacts of projects that involve federal jurisdictional waters. In particular, amendments in 1946 require consultation with USFWS for any federal project that would divert, impound, or otherwise control or modify natural waters, with the explicit goal of avoiding loss and damage to wildlife resources. Additional amendments in 1958 gave the law its present name and added language recognizing the vital importance of the nation's wildlife resources, along with the requirement that wildlife conservation needs receive equal consideration in review and authorization of water resources development projects. The 1958 amendments also expanded the range of situations in which diversion or modification of natural water bodies requires consultation with USFWS.

At present, the Fish and Wildlife Coordination Act requires federal agencies that undertake, permit, or fund activities that would control or modify federal waters to consult with USFWS and/or NMFS and the state agency with similar jurisdiction; and to incorporate the agencies' recommendations for the protection, development, and improvement of wildlife resources into the project where feasible. For the purposes of the Act, *control* and *modification* are now understood to include construction of dams, levees, impoundments, and diversion structures; relocation of streamcourses; placement of dredged and fill materials in federal jurisdictional waters; and discharge of pollutants, including municipal, industrial, and mining wastes into federal jurisdictional waters. This effectively gives USFWS and NMFS oversight responsibility over all projects requiring authorization from the Corps under Section 404 of the federal Clean Water Act and projects

requiring authorization from the State Water Resources Board (through the Regional Water Quality Control Boards) under Section 402 of the Clean Water Act.³

State Regulations

California Coastal Act

The California Coastal Act (Public Resources Code §20), signed into law in 1976, was intended to protect ecological values and prevent deterioration of fragile coastal ecosystems as a result of inappropriate uses and unregulated development. As such, it was intended to serve as the state's Coastal Zone Management Program fulfilling the state's responsibilities under the federal Coastal Zone Management Act of 1972 (16 USC 1451 et seq.).

The California Coastal Act identifies the following goals for the Coastal Zone.

- Protection, maintenance and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.
- Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.
- Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.
- Assure priority for coastal-dependent and coastal-related development over other development on the coast.
- Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

Local jurisdiction (City and County) permit review is the principal regulatory tool under the Coastal Act. Each local jurisdiction is charged with developing and implementing a Local Coastal Program that lays out the types of projects it will approve within the Coastal Zone, consistent with general guidance in the Coastal Act. The Coastal Act also contains important provisions emphasizing the role of public participation in coastal planning and the right to public participation in review and decision making relative to project applications within the Coastal Zone.

California Endangered Species Act

CESA (California Fish and Game Code §§2050–2115), establishes the state's overarching protection for at-risk species and is administered by the California Department of Fish and Game (DFW). CESA identifies the protection and preservation of declining species as a state-level priority, sets forth a procedure for identifying and formally listing species that qualify as *endangered* and *threatened*, and clarifies the definitions of these terms as they are applied under California law: under CESA, *endangered* refers to native plant, fish, and wildlife species and subspecies that are in serious danger of extinction in a significant portion of their range due to one or more causes, including habitat loss or change, overexploitation, predation, competition, or disease; *threatened* encompasses native species and subspecies that do not currently qualify as endangered (i.e., are not currently under threat of extinction) but are likely to become endangered in the foreseeable future unless special protection and management efforts are put in place.

³ See Chapter 3 (*Hydrology and Water Resources*) for information on Clean Water Act permitting.

CESA prohibits all unauthorized *take*—defined in a manner similar to the federal usage but excluding the generalized prohibition on harassment—of endangered and threatened species. Incidental take (take that occurs as a corollary, and not the goal, of otherwise legal activities) of many listed species may be authorized by DFW under Fish and Game Code §§2080–2081, subject to DFW’s review and approval of measures adopted to limit the extent of the take and compensate for its effects on the species. A critical exception is made for *fully protected* species for which the law prohibits authorization of any take or possession, except for purposes of scientific research. These include a number of fish species (§3515), birds (§3511, §3513, §3800; birds of prey are specifically addressed in §3503.5), amphibians and reptiles (§5050), as well as mammals (§4700). In addition, under Fish and Game Code Section 3513, take and possession of species designated by the MBTA as migratory nongame birds may occur only in a manner consistent with federal rules and regulations under the MBTA.

California Native Plant Protection Act

The California Native Plant Protection Act (CNPPA) of 1977 (California Fish and Game Code §§1900–1913) was the state’s first law protecting at-risk plant species. It has been augmented and supplemented by more extensive protections afforded under CESA (described above) but continues to provide important legislative protection for native plants in California. In particular, it established a designation *rare* for plants that are not currently under threat of extinction but are present in such small numbers that they may become endangered if their present environment worsens. With the enactment of CESA, the *threatened* designation superseded the prior usage of *rare* to describe fish and wildlife, but this change did not extend to plants; consequently, there are three listing categories for at-risk plants in California – rare, threatened, and endangered (see California Department of Fish and Game 2012). Plants that qualify and have been formally listed as threatened or endangered are protected under CESA. Those that are not CESA-listed but meet the definition of *rare* (California Fish and Game Code §1901) continue to be protected under the CNPPA.

The CNPPA prohibits the take, possession, importation, or sale of rare and endangered native plants, except under specific circumstances identified in the Act. For projects with the potential to affect rare plants, appropriate protective measures are typically spelled out in a formal agreement negotiated between DFW and the project proponent.

CNPS Rare Plant Inventory

The California Native Plant Society (CNPS) maintains an inventory of California’s rare and endangered plants, which assigns species to one of several “ranks” based on the degree of risk, as follows.

- Rank 1A – These plants are presumed extinct in California
- Rank 1B – These plants are rare, threatened, or endangered in California and elsewhere
- Rank 2 – These plants are rare, threatened, or endangered in California but more common elsewhere
- Rank 3 – This is a “review list” comprising plants about which too little is known to assess their status accurately; more information is needed either to show that they are not rare or to assign them to the appropriate rank
- Rank 4 – This is a “watch list” comprising plants that are of limited or infrequent distribution throughout a broader area. These plants are not rare in the statewide context, but they are sufficiently uncommon that CNPS feels their status should be monitored regularly. If changes in status warrant, Rank 4 plants may be moved to another rank, or they may be de-ranked

Plants assigned to CNPS Ranks 1A and 1B are presumed to qualify for listing under CESA; those in Rank 2 may also qualify.

Regional Planning Documents

Two regional habitat conservation planning documents cover the Project area: the draft North County Multiple Species Conservation Program (North County MSCP) (County of San Diego 2009) and the North County Multiple Habitat Conservation Program (MHCP) (AMEC et al. 2003).

The intent of both documents is to define a conservation planning process that enables local jurisdictions to issue ESA and CESA take permitting for projects that comply with applicable plan requirements. This approach expedites and streamlines authorizations needed to implement a wide variety of projects, while enabling regional-scale/landscape-level conservation planning (a more effective way of providing for the preservation of meaningful “blocks” of habitat) and ensuring that ESA and CESA requirements are fully met.

The North County MSCP is a step-down plan under the aegis of the more geographically extensive Countywide Multiple Species Conservation Program (County of San Diego 2009). As such, it details the implementation of a Countywide conservation program in the County's northwestern unincorporated areas. The portions of the Project corridor outside City limits are within the unincorporated County and thus within the area covered by the North County MSCP.

The MHCP is similarly intended to expand and further detail the Countywide Multiple Species Conservation Program within incorporated cities in the North County area. The programmatic document for the MHCP was finalized in 2003, establishing the goal of

- conserving approximately 19,000 acres of habitat, almost half of which (8,800 acres or 46%) is already in public ownership, and
- contributing toward the regional habitat preserve system for the protection of more than 80 rare, threatened, and endangered species

Approximately 675 acres of the MHCP preserve area is within the City, and most of this is within San Elijo Lagoon.

The City has been in the process of developing a subarea plan to implement MHCP guidelines within City limits, but as of the preparation of this Draft EIR/EA, an implementing agreement has not yet been formalized with the resource agencies. The City therefore cannot independently issue take authorization; take permitting for the Project will accordingly be sought by direct application to USFWS and DFW.

Local Regulations, Plans, and Policies

City of Encinitas Policies and Regulations

The City's General Plan recognizes the importance of preserving undeveloped areas within the City to support populations of rare and endangered plant and animal species. The City makes it a goal to preserve the long term viability of environmentally sensitive habitats, including lagoons and their associated uplands, riparian areas, coastal sage scrub, and coastal mixed chaparral habitats (City of Encinitas 1989) (Resource Management Goal 10). More specifically, the City aims to preserve the entire undeveloped riparian corridor that drains into San Elijo Lagoon and to conserve as much contiguous area of coastal mixed chaparral and coastal sage scrub habitat as feasible (City of Encinitas 1989) (Resource Management Policies 10.4 and 10.5).

City policy stipulates that there shall be no net loss of wetland acreage as a result of development (City of Encinitas 1989) (Resource Management Policy 10.6). Wetland losses must either be avoided or appropriately compensated.

City policies also call for development to incorporate buffer areas protecting wetland and riparian resources. Access paths are permitted within buffer areas (City of Encinitas 1989) (Land Use Policy 8.10).

Local Coastal Program

The City's approved Local Coastal Program is found in Chapter 30.80 of the Encinitas Municipal Code, which details the City's process for reviewing and approving projects proposed within the Coastal Zone, including provisions for public review and input on proposals. As an initial step in the process, the Director of Planning and Building is charged with determining

- Whether a Coastal Development Permit is required, and
- If a permit is required, whether it may be approved at the City level or would require elevation to the California Coastal Commission (Commission)

The Commission retains permit jurisdiction in tidelands, submerged lands, and public trust lands, among other special cases. Per Municipal Code 30.80.030[A][2], the Commission also has jurisdiction over public works plan development. As a result, although Municipal Code Section 30.80.050[D] generally exempts "[t]he installation, testing, and placement in service or the replacement of any necessary utility connection between an existing service facility" and approved development, the Coastal Commission has indicated that it will take regulatory oversight over the Project.

County of San Diego Policies and Regulations

The San Diego County General Plan aims to protect its large diversity of species, vegetation, and habitats, and particularly values riparian corridors for their ability to provide important habitat for wildlife. New development is required to protect natural wildlife habitat and must be sited in the least biologically sensitive areas to minimize habitat losses (County of San Diego 2011) (Policies COS-2.1 and COS-2.2). Development must also preserve existing natural wetland areas and protect them from potentially detrimental activities such as vegetation clearing and fill placement (County of San Diego 2011) (Policies COS-3.1 and COS-3.2).

Projects that require discretionary approval from the San Diego County, including most development applications, are required to prepare a Resource Protection Study to determine whether the project would occur on environmentally sensitive lands such as wetlands and floodplains (San Diego County Code, Section 86.603). Finally, new development occurring within a San Diego County Park may not trim or damage any vegetation or harm any animal without authorization from the County Department of Parks and Recreation (San Diego County Code, Sections 41.111 and 41.112).

Most projects proposed for County-designated Sensitive Resource Areas (including wetlands and significant habitat lands) are required to submit a site plan showing how the proposed development will minimize environmental disturbance. Essential public facilities are exempt from this requirement, provided they meet the following requirements.

- Consistency with subregional habitat conservation planning
- Minimization of environmental damage (project must be able to show that it is the least environmentally damaging alternative that would meet project objectives)
- Net gain of wetland/riparian habitat

However, grading, filling, or construction of any kind, except for access paths, is not permitted within a wetland, and projects must incorporate and maintain an appropriate buffer to protect wetland habitat values (San Diego County Zoning Ordinance, Section 5307).

Impacts and Mitigation Measures

The matrix below summarizes Project impacts, with detailed analysis presented after the matrix. As identified in Chapter 1, the Project will be subject to extensive regulatory oversight, including a requirement to obtain permit authorization under the federal and California Endangered Species Acts, as well as Sections 404 and 401 of the federal Clean Water Act, Section 1602 of the California Fish and Game Code, and the California Coastal Act. Among the requirements for permit authorization will be measures to avoid and reduce impacts on the special-status species that use the Project corridor; and requirements to compensate for the loss of habitat within the footprint of the new access route. Since the entire footprint is being treated as jurisdictional habitat, this will include compensation for upland as well as wetland habitats. With these requirements in place, impacts that would otherwise be identified as significant under both CEQA and NEPA will be avoided, reduced, and compensated for, consistent with all applicable state and federal guidance and law, subject to approval by the regulatory agencies with stewardship responsibility. Findings in the matrix below reflect this requirement, with additional explanation provided in subsequent paragraphs.

Impact	Significance	Mitigation	Significance with Mitigation
<i>Proposed Project</i>			
BIO1– Potential for Adverse Effects on Special-Status Plants	Less than significant	<i>None required</i>	Less than significant
BIO2 – Potential for Adverse Effects on Special-Status Wildlife	Construction period impacts on nesting birds: Potentially significant All other impacts: Less than significant	BIO2.1: Conduct Pre-Construction Nesting Bird Surveys BIO2.2: Protect Occupied Nests <i>In addition to these measures, which are protective of nesting birds, eggs, and young in general, the Project will incorporate additional precautions for species listed as endangered or threatened under the federal and/or California Endangered Species Acts. These measures are being developed, and will be implemented and enforced, via the federal and state take permit processes</i>	Less than significant
BIO3 – Potential for Adverse Effects on Sensitive Natural Upland Communities	Construction period: Less than significant Long-term: Benefit	<i>Project construction will be guided by extensive commitments for resource protection detailed in Chapter 2. Compensation for long-term loss and disturbance impacts on habitat is being developed in consultation with resource agency staff through the federal (Clean Water Act Section 404/401) and state (Streambed Alteration Agreement, Coastal Development Permit) permit review processes. Because all native vegetation affected by the Project is being treated as jurisdictional, this will include compensation for impacts on upland communities as well as wetlands</i>	Construction period: Less than significant Long-term: Benefit

Impact	Significance	Mitigation	Significance with Mitigation
BIO4 – Potential for Adverse Effects on Wetlands and Other Jurisdictional Waters	Construction period: Less than significant Long-term: Benefit	<i>Project construction will be guided by extensive commitments for resource protection detailed in Chapter 2. Compensation for impacts on habitat is being developed in consultation with resource agency staff through the federal (Clean Water Act Section 404/401) and state (Streambed Alteration Agreement, Coastal Development Permit) permit review processes</i>	Construction period: Less than significant Long-term: Benefit
BIO5 – Potential to Interfere with the Movement of Native Fish or Wildlife or Established Wildlife Corridors	Less than significant	<i>None required</i>	Less than significant
BIO6 – Potential to Impede the Use of Native Wildlife Nursery Sites	Less than significant	<i>None required</i>	Less than significant
BIO7 – Potential to Conflict with Local Policies or Regulations Protecting Biological Resources	No impact	<i>None required</i>	Less than significant
BIO8 – Potential to Conflict with an Adopted Conservation Plan	No impact	<i>None required</i>	Less than significant

Alternative 1 – Combination Access, Alternate Configuration

BIO1 – Potential for Adverse Effects on Special-Status Plants	Less than significant	<i>None required</i>	Less than significant
BIO2 – Potential for Adverse Effects on Special-Status Wildlife	Construction period impacts on nesting birds: Potentially significant All other impacts: Less than significant	BIO2.1: Conduct Pre-Construction Nesting Bird Surveys BIO2.2: Protect Occupied Nests <i>In addition to these measures, which are protective of nesting birds, eggs, and young in general, Alternative 1 is assumed to incorporate additional precautions for species listed as endangered or threatened under the federal and/or California Endangered Species Acts. These measures are being developed, and will be implemented and enforced, via the federal and state take permit processes</i>	Less than significant
BIO3 – Potential for Adverse Effects on Sensitive Natural Upland Communities	Construction period: Less than significant Long-term: Benefit	<i>As identified for the proposed Project, construction will be guided by extensive commitments for resource protection detailed in Chapter 2. Compensation for long-term loss and disturbance impacts on habitat is being developed in consultation with resource agency staff through the federal (Clean Water Act Section 404/401) and state (Streambed Alteration Agreement, Coastal Development Permit) permit review processes.</i>	Construction period: Less than significant Long-term: Benefit

Impact	Significance	Mitigation	Significance with Mitigation
		<i>Because all native vegetation affected by the Project is being treated as jurisdictional, this will include compensation for impacts on upland communities as well as wetlands</i>	
BIO4 – Potential for Adverse Effects on Wetlands and Other Jurisdictional Waters	Construction period: Less than significant Long-term: Benefit	<i>As identified for the proposed Project, construction will be guided by extensive commitments for resource protection detailed in Chapter 2. Compensation for impacts on habitat is being developed in consultation with resource agency staff through the federal (Clean Water Act Section 404/401) and state (Streambed Alteration Agreement, Coastal Development Permit) permit review processes</i>	Construction period: Less than significant Long-term: Benefit
BIO5 – Potential to Interfere with the Movement of Native Fish or Wildlife or Established Wildlife Corridors	Less than significant	<i>None required</i>	Less than significant
BIO6 – Potential to Impede the Use of Native Wildlife Nursery Sites	Less than significant	<i>None required</i>	Less than significant
BIO7 – Potential to Conflict with Local Policies or Regulations Protecting Biological Resources	No impact	<i>None required</i>	No impact
BIO8 – Potential to Conflict with an Adopted Conservation Plan	No impact	<i>None required</i>	No impact
<u>Alternative 2 – Conventional Continuous Access, Plantable/Pervious Surface Treatments</u>			
BIO1 – Potential for Adverse Effects on Special-Status Plants	Less than significant	<i>None required</i>	Less than significant
BIO2 – Potential for Adverse Effects on Special-Status Wildlife	Construction period impacts on nesting birds: Potentially significant All other impacts: Less than significant	BIO2.1: Conduct Pre-Construction Nesting Bird Surveys BIO2.2: Protect Occupied Nests <i>In addition to these measures, which are protective of nesting birds, eggs, and young in general, Alternative 2 is assumed to incorporate additional precautions for species listed as endangered or threatened under the federal and/or California Endangered Species Acts. These measures are being developed, and will be implemented and enforced, via the federal and state take permit processes</i>	Less than significant
BIO3 – Potential for Adverse Effects on Sensitive Natural Upland Communities	Construction period: Less than significant Long-term: Benefit	<i>As identified for the proposed Project, construction will be guided by extensive commitments for resource protection detailed in Chapter 2. Compensation for long-term loss and disturbance impacts</i>	Construction period: Less than significant Long term: Benefit

Impact	Significance	Mitigation	Significance with Mitigation
		<p><i>on habitat is being developed in consultation with resource agency staff through the federal (Clean Water Act Section 404/401) and state (Streambed Alteration Agreement, Coastal Development Permit) permit review processes. Because all native vegetation affected by the Project is being treated as jurisdictional, this will include compensation for impacts on upland communities as well as wetlands</i></p>	
<p>BIO4 – Potential for Adverse Effects on Wetlands and Other Jurisdictional Waters</p>	<p>Construction period: Less than significant Long-term: Benefit</p>	<p><i>As identified for the proposed Project, construction will be guided by extensive commitments for resource protection detailed in Chapter 2. Compensation for impacts on habitat is being developed in consultation with resource agency staff through the federal (Clean Water Act Section 404/401) and state (Streambed Alteration Agreement, Coastal Development Permit) permit review processes</i></p>	<p>Construction period: Less than significant Long-term: Benefit</p>
<p>BIO5 – Potential to Interfere with the Movement of Native Fish or Wildlife or Established Wildlife Corridors</p>	<p>Less than significant</p>	<p><i>None required</i></p>	<p>Less than significant</p>
<p>BIO6 – Potential to Impede the Use of Native Wildlife Nursery Sites</p>	<p>Less than significant</p>	<p><i>None required</i></p>	<p>Less than significant</p>
<p>BIO7 – Potential to Conflict with Local Policies or Regulations Protecting Biological Resources</p>	<p>No impact</p>	<p><i>None required</i></p>	<p>No impact</p>
<p>BIO8 – Potential to Conflict with an Adopted Conservation Plan</p>	<p>No impact</p>	<p><i>None required</i></p>	<p>No impact</p>
<p><u>No Project/No Action Alternative</u></p>			
<p>BIO1 – Potential for Adverse Effects on Special-Status Plants</p>	<p>No impact</p>	<p><i>None required</i></p>	<p>No impact</p>
<p>BIO2 – Potential for Adverse Effects on Special-Status Wildlife</p>	<p>No impact</p>	<p><i>None required</i></p>	<p>No impact</p>
<p>BIO3 – Potential for Adverse Effects on Sensitive Natural Upland Communities</p>	<p>Short-term: No impact Long-term: Significant and unavoidable</p>	<p><i>Short Term: None required Long Term: None available</i></p>	<p>Short-term: No impact Long-term: Significant and unavoidable</p>
<p>BIO4 – Potential for Adverse Effects on Wetlands and Other Jurisdictional Waters</p>	<p>Short-term: No impact Long-term: Significant and unavoidable</p>	<p><i>Short Term: None required Long Term: None available</i></p>	<p>Short-term: No impact Long-term: Significant and unavoidable</p>

Impact	Significance	Mitigation	Significance with Mitigation
BIO5 – Potential to Interfere with the Movement of Native Fish or Wildlife or Established Wildlife Corridors	No impact	<i>None required</i>	No impact
BIO6 – Potential to Impede the Use of Native Wildlife Nursery Sites	No impact	<i>None required</i>	No impact
BIO7 – Potential to Conflict with Local Policies or Regulations Protecting Biological Resources	Short-term: No impact Long-term: Significant and unavoidable	<i>Short-term: None required</i> <i>Long-term: None available</i>	Short-term: No impact Long-term: Significant and unavoidable
BIO8 – Potential to Conflict with an Adopted Conservation Plan	Short-term: No impact Long-term: Significant and unavoidable	<i>Short-term: None required</i> <i>Long-term: None available</i>	Short-term: No impact Long-term: Significant and unavoidable

Proposed Project

Less than Significant Impacts

BIO1– Potential for Adverse Effects on Special-Status Plants

As described in *Existing Conditions*, 2 special-status plants are known to be present within the BSA and within the proposed Project footprint: southwestern spiny rush and San Diego marsh elder. Other special-status plants are present in the general Project vicinity (see Table 4-2) but are outside the Project footprint and would not be directly impacted by Project construction.

Southwestern spiny rush is the dominant species in parts of the BSA’s alkali marsh and coastal salt marsh – high habitat, which is found primarily in the southern/southwestern portion of the BSA. This species also occurs in small clusters and as scattered individuals upstream along Escondido Creek. A total of several hundred individuals of southwestern spiny rush are estimated to be present within the BSA, of which approximately 8 are within the Project footprint and would be directly impacted by Project construction. This would constitute an adverse impact but is not considered to rise to the level of significance under either CEQA or NEPA. As a CRPR Rank 4.2 species, southwestern spiny rush qualifies for special status but is considered to be only moderately at risk in California. Moreover, this species would be included in the Project revegetation palette; although there would be a temporary reduction in the number of individuals present, the species’ ongoing presence in the Lagoon and Creek would be supported, and no threat to the local population is anticipated.

Populations of San Diego marsh-elder are present in three locations within the BSA: adjacent to the Rancho Santa Fe Road bridge, south of El Camino Del Norte, and near the north end of the BSA along Lone Jack Road. However, only about 8 individuals would be removed as a result of Project construction. This would represent an adverse impact but is not considered to rise to the level of significance under either CEQA or NEPA. As a CRPR Rank 2B.2 species, San Diego marsh-elder is considered only moderately at risk in California and is more common elsewhere. Moreover, like southwestern spiny rush, San Diego marsh-elder would be included in the Project revegetation palette, so the species’ ongoing presence would be supported, and no threat to the local populations is anticipated.

Construction would also have the some potential to result in degradation of habitat for special-status plants as a result of trampling/soil compaction, accelerated erosion and offsite siltation, and use of potentially toxic

substances. However, as discussed in the *Environmental Commitments* section of Chapter 2, all work, activity and materials laydown would be strictly confined to the finished footprint of the new access; and through the SWPPP requirement and additional Project commitments, the Project would incorporate extensive precautions to protect water quality and habitat values during construction. Contractor implementation of these measures would be monitored by qualified biologists separately retained by and reporting to the City, under the oversight of regulatory agency staff. With these commitments in place, adverse impacts on habitat—and thus, indirect adverse effects on special-status plants through degradation of habitat values—would be effectively controlled.

The Project’s short-term (construction-related) potential to impact special-status plants is considered less than significant overall under both CEQA and NEPA, and no mitigation is required.

Over the longer-term, once the Project is completed and the new access is in use, human presence and activity in the Creek and Lagoon would increase slightly, since the Project would enable City maintenance crews to access portions of the OTS alignment they cannot currently reach. This could create some potential for ongoing direct and indirect impacts on special-status plants in the Creek/Lagoon corridor, similar to those described for the construction period. However, the City has committed to implement ongoing limitations restricting human activity entirely within the new access footprint, and with this commitment in place impacts would be effectively avoided or minimized. **Long-term (operational) impacts on special-status plants are therefore also considered less than significant under both CEQA and NEPA.** No mitigation is required.

BIO3 – Potential for Adverse Effects on Sensitive Natural Upland Communities

As discussed in Chapter 2, the City has undertaken an extensive planning process, working in concert with technical experts and regulatory agency staff, to develop a Project approach that avoids and minimizes impacts on sensitive natural communities to the extent feasible.

However, creating the new access would unavoidably create a footprint within areas of natural vegetation, including several upland vegetation communities that are considered sensitive in the North County area at the local, state, and/or federal level, itemized in Table 4-3.

Table 4-3: Anticipated Impacts on Sensitive Upland Communities

Vegetation Community	Impact (Acres)
Diegan coastal sage scrub	0.11
Disturbed Diegan coastal sage scrub	0.09
Goldenbush scrub	0.30
Non-native grassland	0.50
Total	1.00

To minimize the effect of the access footprint on overall habitat continuity and quality in Escondido Creek and San Elijo Lagoon, the new access would be revegetated in a native species palette consistent with surrounding areas (see Table 2-5).

Impacts associated with areas planned for revegetation in native species are typically evaluated (and compensated) as temporary disturbances rather than permanent losses of habitat. For both types of impacts—temporary disturbance as well as permanent losses—compensation is calculated on an acre-for-acre basis, with lower compensation ratios usually required for disturbance, since the function and values of temporarily disturbed habitat are assumed to recover over time.

For this Project, however, because intermittent disturbance along the access would continue to be necessary, the City and resource agencies have agreed that it is more appropriate to treat the entire footprint of the new access as a loss of habitat, even though the area would be fully revegetated after construction and would continue to offer some level of habitat value over the long term. Compensation acreages will be negotiated through the regulatory permitting process but with this more conservative approach in place are expected to be at least 2:1 (2 acres of habitat provided for every 1 acre of habitat “lost”), and may be 3:1 or higher to provide compensation for the habitat lost as well as the loss of function and value while revegetated areas recover. Specifics of the compensation package will also be developed through the regulatory permitting process, but the package is expected to comprise a combination of habitat creation, habitat, enhancement, support for Conservancy habitat enhancement and conservation programs, and/or payment into mitigation banks supporting existing tracts of habitat. Under federal law, and consistent with the prevailing practice of the regulatory agencies, habitat compensation will emphasize local in-kind compensation (provision of like habitats) to the extent this is feasible.

With this approach in place, and given the extensive review and oversight that will be required to obtain the permits required to authorize Project implementation—and without which the Project cannot legally proceed—the **loss of habitat associated with access installation in sensitive upland habitats would be addressed consistent with state and federal law and local conservation planning. Impacts are therefore considered less than significant under CEQA and NEPA.** No mitigation is required.

Over the longer-term, there would be no added loss or degradation of sensitive upland habitat, since the City has committed to restrict all operational activity within the footprint of the new access. Moreover, by improving the City’s ability to clean and maintain a critical trunk sewer line, reducing the potential for SSOs and failures, **the Project would substantially benefit sensitive upland vegetation communities in the Creek and Lagoon corridor.**

BIO4 – Potential for Adverse Effects on Wetlands and Other Jurisdictional Waters

As discussed in Chapter 2 and in Impact BIO3 above, the City has worked extensively with technical experts and regulatory agency staff to develop a Project approach that avoids and minimizes impacts on sensitive habitat to the extent feasible. A primary goal of the planning process was to avoid impacts on wetlands and other jurisdictional waters (including both state- and federally jurisdictional habitat) as much as possible. As discussed in Chapter 3 (*Hydrology and Water Quality*), to reduce impacts on surface drainage the Project is being designed such that grading would be minimized and the final (finished) grade would be the same as the existing grade. Permeable, plantable surface treatments would be used to minimize impacts on shallow hydrology, only. As discussed above, the new access would also be revegetated in a native species palette consistent with surrounding areas (see Table 2-5) to minimize the effect of the access footprint on overall habitat continuity and quality. However, much as in sensitive upland communities, creating the new access would unavoidably have a footprint within jurisdictional habitat, as itemized in Table 4-4.

Table 4-4: Anticipated Impacts on Jurisdictional Habitat

Habitat Type	Impact (Acres)
Alkali marsh	2.10
Disturbed alkali marsh	0.17
Freshwater marsh/alkali marsh	0.06
Coastal salt marsh – high	0.03
Coastal salt marsh – high/goldenbush scrub	0.21

Habitat Type	Impact (Acres)
Mulefat scrub/southern willow scrub	0.09
Southern willow scrub	0.64
Total impacts on jurisdictional habitat	3.30

Impacts associated with areas planned for revegetation in native species are typically evaluated (and compensated) as temporary disturbances rather than permanent losses of habitat. For both types of impacts—temporary disturbance as well as permanent losses—compensation is calculated on an acre-for-acre basis, with lower compensation ratios usually required for disturbance, since the function and values of temporarily disturbed habitat are assumed to recover over time.

For this Project, however, because intermittent disturbance along the access would continue to be necessary, the City and resource agencies have agreed that it is more appropriate to treat the entire footprint of the new access as a loss of habitat, even though the area would be fully revegetated after construction and would continue to offer some level of habitat value over the long term. This approach applies to impacts within jurisdictional habitat as well as to the upland vegetation communities discussed in Impact BIO3. As with upland vegetation community, compensation acreages for jurisdictional habitats will be negotiated through the regulatory permitting process; ratios are expected to be at least 3:1 for areas of high-quality jurisdictional habitat and will be set at a level that provides appropriate compensation for the habitat lost as well as the loss of function and value while revegetated areas recover. Specifics of the compensation package are being developed in consultation with resource agency staff through the regulatory permitting process, but the package is expected to comprise a combination of the following.

- Habitat enhancement and/or creation in the project vicinity
- Financial support for Conservancy habitat enhancement, creation, and/or conservation programs
- Payment into mitigation banks supporting existing tracts of conserved habitat

Under federal law, and consistent with the prevailing practice of the regulatory agencies, habitat compensation will emphasize in-kind compensation (provision of like habitats) to the extent this is feasible.

With this approach in place, and given the extensive review and oversight that will be required to obtain the permits required to authorize Project implementation – and without which the Project cannot legally proceed – **the loss of habitat associated with access installation in jurisdictional habitats would be addressed consistent with state and federal law and local conservation planning. Impacts are therefore considered less than significant under CEQA and NEPA.** No mitigation is required.

Over the longer-term, there would be no added loss or degradation of jurisdictional habitat, since the City has committed to restrict all operational activity within the footprint of the new access. Moreover, by improving the City’s ability to clean and maintain a critical trunk sewer line, reducing the potential for SSOs and failures, **the Project would substantially benefit jurisdictional habitat along Escondido Creek and in San Elijo Lagoon.**

BIO5 – Potential to Interfere with the Movement of Native Fish or Wildlife or Established Wildlife Corridors

As described in *Existing Conditions*, riparian open space along Escondido Creek serves as an important regional wildlife corridor linking conserved habitat within San Elijo Lagoon with inland open space in the vicinity of the Elfin Forest and Lake Hodges to the northeast.

During construction, the presence of workers and equipment, and the habitat disturbance associated with the need for vegetation removal and access grading, could temporarily interfere with wildlife passage via the Escondido Creek corridor. However, construction would be limited to daytime hours in compliance with City noise restrictions (see Chapter 8, *Noise and Vibration*), thus allowing unimpeded corridor usage by wildlife during the more active evening and overnight hours. Moreover, any interference with wildlife passage would be localized, limited to the immediate vicinity of the active work site, with the much greater undisturbed width of the Creek corridor remaining available for use. Interference would also be temporary and short-term in any given location. In view of all these considerations, **the Project's short-term (construction-related) potential to interfere with the movement of native fish and wildlife species in the Escondido Creek wildlife corridor is considered less than significant under both CEQA and NEPA.** No mitigation is required.

Over the longer term, the Project would not install new aboveground facilities or fencing, and the access would be revegetated with appropriate native species. Human presence on the new access would be very limited and short-term, associated with specific operational and maintenance activities carried out at routine intervals, entirely within daylight hours. No adverse effect on wildlife passage along the Escondido Creek corridor is anticipated. **Long-term impacts are considered less than significant under both CEQA and NEPA.** No mitigation is required.

BIO6 – Potential to Impede the Use of Native Wildlife Nursery Sites

Several protected wildlife species may breed in habitat along Escondido Creek and/or within San Elijo Lagoon, as itemized in Table 4-2 above.

Much as described in Impact BIO4, the habitat disturbance and human activity entailed by construction would have the potential to result in disturbance that could locally discourage wildlife breeding and rearing. However, work would be very localized, limited to the immediate vicinity of the active work site, with the much greater undisturbed width of the Creek corridor remaining available for use. Interference would also be temporary and short-term in any given location. **The Project's short-term (construction-related) potential to interfere with wildlife breeding and rearing in the Escondido Creek wildlife corridor is considered less than significant under both CEQA and NEPA.** No mitigation is required.

Over the longer term, added human presence in the Creek and Lagoon would be very limited, intermittent, and short-term, associated with specific operational and maintenance activities carried out at routine intervals, entirely within daylight hours. No adverse effect on wildlife breeding or rearing along the Escondido Creek corridor is anticipated. **Long-term impacts are considered less than significant under both CEQA and NEPA.** No mitigation is required.

BIO7 – Potential to Conflict with Local Policies or Regulations Protecting Biological Resources

The City's General Plan (City of Encinitas 1989) contains a number of goals and policies to protect sensitive habitats, as discussed in *Local Regulations, Plans, and Policies* under *Regulatory Context* above; these include preserving the riparian corridor that drains into San Elijo Lagoon as undeveloped open space and maximizing the conservation of contiguous acreage of various sensitive habitats. City policies also prohibit net loss of wetlands and call for development to incorporate buffer areas protecting wetland and riparian resources, although access paths are permitted within buffer areas.

As Chapter 2 lays out, the City has worked closely with technical experts and resource agency staff in developing a proposed Project approach that would meet critical infrastructure needs while minimizing habitat loss to the extent practicable. The proposed access footprint was developed in consideration of Conservancy, Agency, and County conservation goals for the Escondido Creek/San Elijo Lagoon system, and was configured to minimize habitat disconnection and avoid "edge effects" on sensitive habitat (including but not limited to wetlands) as much as possible. In addition, all habitat impacts (again including but not limited

to those on wetlands) will be compensated consistent with the requirements of applicable regulations, included Section 404 of the federal Clean Water Act, Section 1602 of the California Fish and Game Code, and the federal and California Endangered Species Acts. Consistent with the requirements of Section 404, and the Corps' regulatory responsibility to avoid loss of federal jurisdictional waters, habitat mitigation, discussed in more detail in Impact BIO4 below, will be developed to avoid net loss of wetlands. The Project would therefore also be in compliance with the City's policies regarding wetland loss.

There would be **no impact under either CEQA or NEPA related to conflict with local policies or regulations protecting biological resources**. No mitigation is required.

BIO8 – Potential to Conflict with an Adopted Conservation Plan

As discussed in *Regional Planning Documents* under *Regulatory Context* above, with the City's sub-area plan under the MHCP still in development there is currently no adopted conservation plan that applies to the Project as a City-proposed undertaking. However, the Project has been developed for consistency with the conservation and land management goals of the Conservancy, resource agencies, and County, with a primary goal of maintaining and enhancing habitat values in Escondido Creek and San Elijo Lagoon. As such, it is consistent with the goals and objectives of both the MHCP and the draft North County MSCP. The Project's primary driver of protecting Creek and Lagoon water quality by providing for improved maintenance of critical sewer infrastructure is also consistent with the conservation of habitat under the MHCP and North County MSCP. There would be **no impact under either CEQA or NEPA related to conflict with an adopted conservation plan**. No mitigation is required.

Significant Impacts and Mitigation Approaches

BIO2 – Potential for Adverse Effects on Special-Status Wildlife

Construction Period Impacts

Nesting Birds. Escondido Creek and San Elijo Lagoon provide high-quality habitat that is known or presumed to support nesting by a number of species protected under the federal and/or California Endangered Species Acts, the federal Migratory Bird Treaty Act, the California Fish and Game Code, and/or other regulations. This discussion focuses on species that qualify for special status under CEQA but are not listed under the federal or state Endangered Species Act. Additional information on listed bird species is presented in the next section.

Because of the Project's location within a floodway, it is unlikely that construction can be completed entirely outside the nesting season, which extends from January 1 through September 15 in the project area. Construction activity—in particular, equipment access and vegetation trimming and removal—during the nesting season would have the potential to result disturbance, injury, or mortality of nesting individuals; nest abandonment; and reproductive failure. Depending on the extent of the disturbance, any of these outcomes could rise to a level that represents a significant impact.

To address the potential for adverse effects on nesting birds not protected under the state or federal Endangered Species Acts, the following mitigation measures will be implemented. With these measures in place, impacts on nesting birds would be reduced to a level considered less than significant under both CEQA and NEPA.

Mitigation Measure BIO2.1: Conduct Pre-Construction Nesting Bird Surveys

If construction activities would commence at any time between February 1 and September 15, the City will retain a qualified wildlife biologist to conduct a preconstruction survey for nesting birds. The survey will be conducted within 3 days of the commencement of construction activities and will cover a radius of 500 feet from the work area boundary. The purpose of the survey will be to

determine whether active nests of any special-status bird species, including but not limited to those protected by the federal Endangered Species Act, California Endangered Species Act, Migratory Bird Treaty Act, and/or California Fish and Game Code, are present in, or within 300 feet of, the construction zone. If occupied nests are identified during the survey, Mitigation Measure BIO-2 will also be implemented.

Mitigation Measure BIO2.2: Protect Occupied Nests

If active nests of any protected bird species are found within 500 feet of the construction zone, the following actions will be taken.

- A no-activity buffer zone will be created around each active nest for the duration of the breeding season or until a qualified biologist retained by the City determines that all young have fledged. The limits of the no-activity buffer will be delineated with flagging, temporary construction fencing, or another appropriate, low-impact measure, installed under the direct supervision of the qualified wildlife biologist
- The barrier(s) and activity restrictions will remain in place until the wildlife biologist determines that young have successfully fledged, or the nest has been abandoned due to natural causes. The biologist will monitor the nest at least weekly to verify nesting progress
- Construction personnel will be instructed on the sensitivity of nest areas and the no-activity requirement
- The radius of the no-disturbance buffer will be determined by the qualified wildlife biologist based on site- and species-specific factors. For species protected under the federal and/or California Endangered Species Act, the buffer radius will be determined in consultation with resource agency (USFWS and/or DFW, as appropriate) staff. In general, the buffer is expected to be 300-feet wide (300-foot radius) for passerine species, and 500-feet wide (500-foot radius) for raptor species, but the width may be adjusted by the qualified biologist and/or agency staff based on factors such as the following.
 - Noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity
 - The distance between the nest and the work site, and the amount of vegetation or other screening between the construction site and the nest
 - The typical sensitivity of the nesting species and the behavior of the nesting pair(s)

The width of the no activity buffer may be increased if the biologist and/or agency staff determine that the minimum widths (radii) would provide inadequate protection from heavy equipment noise or other construction-related disturbance. Buffer width may also be decreased if deemed appropriate in the professional judgment of the qualified wildlife biologist.

Listed Species. As described in *Existing Conditions* and mentioned above, 4 listed bird species are known to be present within the BSA, based on the results of focused (protocol-level) surveys performed for the Project in 2013 and 2014, in combination with data from prior studies:

- Belding's Savannah Sparrow (state-listed as Endangered)
- Coastal California Gnatcatcher (federally listed as Threatened, California Species of Special Concern)
- Least Bell's Vireo (state- and federally listed as Endangered)

- Light-footed Ridgway's Rail (state- and federally listed as Endangered, Fully Protected by State of California)

All 4 of these species are presumed or considered likely to nest within the BSA. Focused surveys were also conducted for Southwestern Willow Flycatcher, which was not confirmed within the survey area and is therefore provisionally considered to be absent from the Project alignment and its immediate vicinity.

As discussed above for nesting birds in general, construction activity has the potential for direct impacts related to disturbance, injury, or mortality of individuals, nest abandonment, and reproductive failure affecting the 4 state- and or federally listed bird species (Belding's Savannah Sparrow, Coastal California Gnatcatcher, Least Bell's Vireo, and Light-footed Ridgway's Rail) known to be present in and near the Project alignment. Any of these outcomes could rise to the level of a significant impact under CEQA and NEPA. Because of the presence of listed species, the City is consulting with DFW and (via the Corps) USFWS, consistent with the requirements of the federal and California Endangered Species Acts. The Project is expected to incorporate species-specific measures to protect birds listed as endangered or threatened under the federal and/or state Endangered Species Act; these are currently being developed in collaboration with the resource agencies, will be formalized via the state and federal take permit process, and will be incorporated into the Project construction documents for binding implementation. **Potential impacts on nesting by these 4 species will be further addressed via implementation of Mitigation Measures BIO2.1 and BIO2.2, also discussed above. With species-specific requirements implemented via the federal/state take permit process and these mitigation measures in place, the potential impacts related to disturbance of nesting behavior among the 4 listed bird species would be reduced to a level considered less than significant under CEQA and NEPA.** No additional mitigation is required.

Project construction would also entail removal of habitat, with the potential for additional, indirect impacts on these 4 listed bird species. Of particular concern are the following removals

- Approximately 0.23 acre of coastal salt marsh – high and goldenbush scrub that offers potential nesting habitat for Belding's Savannah Sparrow
- A total of approximately 0.30 acre of Diegan coastal sage scrub and coastal salt marsh – high that is considered occupied habitat for Coastal California Gnatcatcher
- Approximately 0.64 acre of southern willow scrub and an additional 0.08 acre of southern riparian scrub suitable for Least Bell's Vireo nesting
- Approximately 0.08 acre of freshwater marsh habitat considered likely to support Light-footed Ridgway's Rail nesting

All of these removals have the potential to represent significant impacts under CEQA and NEPA. However, as discussed in more detail below in Impacts BIO3 (*Potential for Adverse Effects on Sensitive Natural Communities*) and BIO4 (*Potential for Adverse Effects on Wetlands and Other Jurisdictional Waters*), all habitat losses incurred for Project construction will be compensated at acreage ratios determined through consultation with USFWS and DFW under the aegis of the federal and state take permit review process, consistent with the federal and state Endangered Species Acts and all applicable implementing regulations.

In this context, all habitat losses are expected to be compensated at ratios of 2:1 (2 acres provided for each 1 acre of loss) or greater, depending on localized evaluations of habitat quality, function, and value. Ratios of 3:1 or more are anticipated for high-quality jurisdictional habitat. For all habitats, compensation ratios will be set at a level that offsets the decrease in function and value while revegetated areas are becoming established. Compensation is expected to involve a combination of habitat enhancement and/or creation in

the project vicinity; financial support for Conservancy and/or County habitat enhancement, creation, and/or conservation programs; and/or payment into mitigation banks supporting existing tracts of conserved habitat. The habitat compensation package is being developed in close consultation with resource agency staff and the San Elijo Lagoon Conservancy so it can be tailored to best support identification conservation goals for the Creek and Lagoon and the species they support. With this process in place, **all construction-related loss of habitat supporting listed bird species would be appropriately compensated, and indirect impacts on listed bird species related to habitat loss would be reduced to a level considered less than significant under both CEQA and NEPA.** No additional mitigation is required.

Fully Protected Bird Species. In addition to the 4 listed bird species discussed above, 2 additional bird species that are considered Fully Protected under the California Fish and Game Code but are not listed under the federal or state Endangered Species Act are known to be present within or in close proximity to the Project alignment:

- White-tailed Kite (DFW Fully Protected Species, nesting)
- Peregrine Falcon (DFW Fully Protected Species, nesting)

The Peregrine Falcon has been observed hunting over open water east of the BSA but is unlikely to nest in the immediate vicinity because the BSA does not offer suitable nesting habitat. **Significant direct impacts on nesting Peregrine Falcon are not anticipated** and no mitigation specific to this species is required.

The White-tailed kite is considered likely to nest in the BSA, and construction would thus have the potential to result in direct impacts related to disturbance, injury, or mortality of nesting individuals, nest abandonment, and reproductive failure. Any of these could represent a significant impact under CEQA and NEPA, and would also constitute prohibited take, since DFW cannot legally issue permits for take of Fully Protected species. **Implementation of Mitigation Measures BIO2.1 and BIO2.2, discussed above, would avoid significant impacts on nesting White-tailed Kite.**

Over the longer term, loss of habitat for construction of the new access would reduce resources available to support both the White-tailed Kite and the Peregrine Falcon, potentially rising to the level of a significant impact under both CEQA and NEPA. However, the habitat compensation discussed above in Impacts BIO3 and BIO4 would provide for long-term maintenance of habitat function and value in the Project area. **Indirect impacts on White-tailed Kite and Peregrine Falcon, if any, would therefore be less than significant.**

Other Non-Listed Species that Qualify for Special Status. In addition to the 4 listed and 2 Fully Protected bird species discussed above, 9 additional wildlife species that qualify for special status but are not listed were observed within or immediately adjacent to the BSA during 2013 surveys, as follows:

- Orange-Throated Whiptail (DFW Species of Special Concern)
- Cooper's Hawk (DFW Watch List, nesting)
- Great Egret (DFW Special Animal, nesting colony)
- Great Blue Heron (DFW Special Animal, nesting colony)
- Northern Harrier (DFW Species of Special Concern, nesting)
- Clark's Marsh Wren (DFW Species of Special Concern)
- Yellow Warbler (DFW Species of Special Concern, nesting)

- Yellow-breasted Chat (DFW Species of Special Concern, nesting)
- Summer Tanager (DFW Species of Special Concern, nesting)
- Southern mule deer (DFW harvest species)

Two special-status bats—California mastiff bat and western red bat—are also likely to be present and may also breed in the BSA (Appendix D). However, no roosting sites such as large trees or street overpasses would be impacted for the proposed Project, so **no impacts on special status bats are anticipated. Impacts, if any, on whiptail and mule deer are similarly expected to be less than significant**, since the Project would have a very limited construction footprint that occurs within a substantial expanse of protected habitat offering abundant breeding and foraging opportunities.

Similarly, although loss of habitat could reduce resources available to support the mule deer, potentially resulting in impacts on the local population, the habitat compensation program discussed above in Impacts BIO3 and BIO4 would provide for long-term maintenance of habitat function and value in the Project area. **Impacts on southern mule deer, if any, would therefore be less than significant.**

As discussed above for nesting birds in general and for listed birds, there are two potential pathways for impact on these additional non-listed special-status species: injury or mortality of individuals and disruption of breeding behavior. Impacts on bird nesting, although potentially significant, would be addressed through the implementation of **Mitigation Measures BIO2.1 and BIO2.2, discussed above. With these measures in place, potential impacts on the additional special-status species birds identified here would be reduced to a level considered less than significant under CEQA and NEPA.**

Long-Term (Operational) Impacts

Over the longer-term, once the Project is completed and the new access is in use, human and vehicular presence and activity in the Creek and Lagoon would increase slightly, since the Project would enable City maintenance crews to access portions of the OTS alignment they cannot currently reach. However, as discussed in Impact BIO1 above, the City has committed to implement ongoing limitations restricting human activity entirely within the new access footprint. With this commitment in place, impacts related to injury and mortality of special-status species would be substantially reduced if not entirely avoided. Additional loss and degradation of habitat would also be reduced or avoided. Additional specifics, such as operational measures for the protection of water quality, are being developed—and will be implemented and enforced—through the regulatory permitting process. **Direct long-term (operational) impacts on special-status species are therefore expected to be less than significant under both CEQA and NEPA.** No mitigation is required.

Action Alternatives

For the most part, impacts on biological resources under the two action alternatives—Alternative 1 (Combination Access, Alternate Configuration) and Alternative 2 (Conventional Continuous Access, Plantable/Pervious Surface Treatments)—would be similar to those discussed above for the proposed Project. Although the location and footprint of the new access would differ somewhat from the proposed Project, the construction process would be essentially the same, and both action alternatives would incorporate the same environmental commitments and would be subject to the same regulatory permitting requirements and oversight, including requirements to protect special-status species and compensate appropriately for habitat loss.

Project outcomes would also be broadly similar: both action alternatives would result in relocating a portion of the OTS upstream of El Camino del Norte into Lone Jack Road, removing the siphon and 2 accompanying manholes, and rehabilitating remaining manholes along the Project alignment. Both action alternatives

would also enable the City to inspect, clean, and maintain the entirety of the OTS between El Camino del Norte and Manchester Avenue, much of which is currently inaccessible to City crews and equipment. This would substantially reduce the potential for spills, failures, and overflows associated with this critical wastewater facility, and would have a substantial long-term benefit for sensitive upland and wetland habitats in Escondido Creek and San Elijo Lagoon.

In light of the construction and operational similarities between the action alternatives and the proposed Project, the overall level of impact for the following impacts would similar to that discussed for the proposed Project; findings under CEQA and NEPA are the same, for the same reasons identified for the proposed Project:

- **BIO1 – Potential for Adverse Effects on Special-Status Plants:** less than significant under CEQA and NEPA
- **BIO2 – Potential for Adverse Effects on Special-Status Wildlife:** construction period impacts on nesting birds: potentially significant but would be reduce to a level considered less than significant under both CEQA and NEPA by implementation of Mitigation Measures BIO2.1 (*Conduct Pre-Construction Nesting Bird Surveys*) and BIO2.2 (*Protect Occupied Nests*); all other potential impacts: less than significant
- **BIO3 – Potential for Adverse Effects on Sensitive Natural Communities:** less than significant for construction period, with substantial long-term benefit
- **BIO4 – Potential for Adverse Effects on Wetlands and Other Jurisdictional Waters:** less than significant for construction period, with substantial long-term benefit
- **BIO5 – Potential to Interfere with the Movement of Native Fish or Wildlife or Established Wildlife Corridors:** less than significant
- **BIO6 – Potential to Impede the Use of Native Wildlife Nursery Sites:** less than significant
- **BIO7 – Potential to Conflict with Local Policies or Regulations Protecting Biological Resources:** no impact
- **BIO8 – Potential to Conflict with an Adopted Conservation Plan:** no impact

There would be some important differences between the action alternatives, however, as well as between the 2 action alternatives and the proposed Project. Because of differences in the footprints of the 3 action approaches, the overall acreage habitat affected by Project construction differs somewhat, as does the extent of particular vegetation communities involved. The differences are summarized in Table 4-5.

Table 4-5: Impact Acreages by Vegetation Community/Land Cover Type, by Alternative

Habitat	Anticipated Impacts (Acres)			
	Proposed Project	Alternative 1	Alternative 2	
			Alternative 2A	Alternative 2B
Alkali Marsh	2.09	2.30	1.94	2.14
Disturbed Alkali Marsh	0.16	0.16	0.11	0.01
Coastal Brackish Marsh	0.00	0.00	0.00	0.00
Coastal Salt Marsh – Mid	0.00	0.00	<0.01	<0.01
Coastal Salt Marsh – High	0.03	0.03	0.02	0.02
Coastal Salt Marsh - High/Goldenbush Scrub	0.21	0.21	0.19	0.19

Habitat	Anticipated Impacts (Acres)			
	Proposed Project	Alternative 1	Alternative 2	
			Alternative 2A	Alternative 2B
Freshwater Marsh	0.19	0.28	0.47	0.47
Freshwater Marsh/Alkali Marsh	0.06	0.06	0.25	0.04
Open Water	<0.01	<0.01	<0.01	<0.01
Mulefat Scrub/Freshwater Marsh	0.00	0.00	0.00	0.00
Southern Riparian Scrub	0.09	0.09	0.15	0.15
Southern Willow Scrub	0.64	0.67	1.19	0.93
Southern Willow Scrub/Freshwater Marsh	0.00	0.00	0.00	0.00
Southern Willow Riparian Forest	0.00	0.00	0.00	0.00
<i>Subtotal – impacts in jurisdictional habitat:</i>	<i>3.47</i>	<i>3.80</i>	<i>4.32</i>	<i>3.95</i>
Diegan Coastal Sage Scrub	0.11	0.11	0.11	0.11
Disturbed Diegan Coastal Sage Scrub	0.09	0.01	0.13	0.13
Goldenbush Scrub	0.30	0.10	0.30	0.30
Non-Native Grassland	0.50	0.39	0.16	0.38
<i>Subtotal – impacts in upland habitat:</i>	<i>1.00</i>	<i>0.61</i>	<i>0.70</i>	<i>0.92</i>
TOTAL Impact in sensitive habitat:	4.47	4.41	5.02	4.87

As Table 4-5 shows, overall impacts within jurisdictional habitat would increase under both action alternatives by comparison with the proposed Project. Impacts on upland habitat would decrease slightly under the action alternatives. Overall impacts in sensitive habitat would be slightly lessened under Alternative 1 and would be slightly increased under Alternative 2. Because the acreage of impacts within jurisdictional habitat would increase under both action alternatives, the extent and severity of impacts on Creek and Lagoon aquatic resources would be increased under the action alternatives by comparison with the proposed Project.

There would also be slight differences among the alternatives as regards impacts on habitat supporting special-status bird nesting, as itemized in Table 4-6 on the following page. Impacts on Belding’s Savannah Sparrow habitat (and thus, indirect impacts on the species) would decrease slightly under Alternative 2 by comparison with the proposed Project and Alternative 1. Impacts on Coastal California Gnatcatcher and Least Bell’s Vireo habitat would decrease under Alternative 1 and increase under Alternative 2 by comparison with the proposed Project, and impacts on Light-footed Ridgway’s Rail would increase under all of the action alternatives by comparison with the proposed Project.

Table 4-6: Impacts on Special-Status Bird Nesting Habitat, by Alternative

Species	Habitat Impacted	Anticipated Impacts (Acres)			
		Proposed Project (AC)	Alternative 1 (AC)	Alternative 2	
				Alternative 2A	Alternative 2B
Belding's Savannah Sparrow	Coastal salt marsh – high/goldenbush scrub	0.20	0.20	0.18	0.18
	Coastal salt marsh – high	0.03	0.03	0.02	0.02
	<i>Total for Belding's Savannah Sparrow:</i>	<i>0.23</i>	<i>0.23</i>	<i>0.2</i>	<i>0.2</i>

Species	Habitat Impacted	Anticipated Impacts (Acres)			
		Proposed Project (AC)	Alternative 1 (AC)	Alternative 2 Alternative 2A	Alternative 2B
Coastal California Gnatcatcher	Goldenbush scrub	0.02	—	0.17	0.17
	Coastal salt marsh – high/goldenbush scrub	0.19	0.19	0.19	0.19
	Diegan coastal sage scrub – disturbed	0.09	—	—	—
<i>Total for Coastal California Gnatcatcher:</i>		<i>0.30</i>	<i>0.19</i>	<i>0.36</i>	<i>0.36</i>
Least Bell's Vireo (Nesting)	Southern willow scrub	0.64	0.51	1.19	0.92
	Southern riparian scrub	0.08	0.08	0.15	0.15
	<i>Total for Least Bell's Vireo:</i>	<i>0.72</i>	<i>0.59</i>	<i>1.34</i>	<i>1.08</i>
Light-footed Ridgway's Rail (Nesting)	Freshwater marsh	0.08	0.37	0.17	0.17
	<i>Total for Light-footed Ridgway's Rail:</i>	<i>0.08</i>	<i>0.37</i>	<i>0.17</i>	<i>0.17</i>

In addition to the differences in acreage impacts discussed above and itemized in Tables 4-5 and 4-6, both of the Alternative 2 scenarios (2A and 2B) would create linear access along much of the OTS alignment, with a greater extent of along-alignment access than either the proposed Project or Alternative 1. As a result, the potential for habitat disconnection and associated adverse impacts would be greater under Alternative 2A and 2B than under Alternative 1 or the proposed Project. Impacts on special-status plant species would be the same under the proposed Project or Alternatives 1, 2A, and 2B; these species occur in areas that must be impacted under all alternatives in order to achieve maintenance access.

No Project/No Action Alternative

Under the No Project/No Action Alternative, no access would be constructed, none of the degraded manholes would be rehabilitated in the immediate future, and the siphon and all manholes would remain in place. **With no construction in the Creek/Lagoon corridor, there would be no immediate (short-term) potential for impact under either CEQA or NEPA with regard to any of the following**, and no mitigation for such impacts would be needed.

- BIO1 – Potential for Adverse Effects on Special-Status Plants
- BIO2 – Potential for Adverse Effects on Special-Status Wildlife
- BIO3 – Potential for Adverse Effects on Sensitive Natural Communities
- BIO4 – Potential for Adverse Effects on Wetlands and Other Jurisdictional Waters
- BIO5 – Potential to Interfere with the Movement of Native Fish or Wildlife or Established Wildlife Corridors
- BIO6 – Potential to Impede the Use of Native Wildlife Nursery Sites
- BIO7 – Potential to Conflict with Local Policies or Regulations Protecting Biological Resources
- BIO8 – Potential to Conflict with an Adopted Conservation Plan

With no action taken to rehabilitate aging system components and improve City's ability to clean and maintain this important trunk sewer line, the No Project/No Action alternative would lack the benefits to Creek and Lagoon habitat offered by the proposed Project.

In addition, over the longer term, the aging manholes along the project reach of the OTS would continue to deteriorate, and it would eventually become necessary to rehabilitate them under a separate future project or projects. Based on recent condition inspections, this is expected to become a critical need within the foreseeable future, and such activities would likely have the potential for impacts on sensitive habitat and special-status species. The nature and severity of the impacts would depend critically on the timing, extent, and specific nature of future work, however; and because these details remain speculative at this time, outcomes cannot be analyzed in detail in this document, although any such future project would be a discretionary undertaking subject to CEQA/NEPA review and regulatory permitting at the time it is proposed.

Moreover, as discussed in Chapters 1 and 2, recent condition assessments identified many of the manholes along the Project reach of the OTS as substantially degraded, and with the City's ability to clean the OTS compromised by access challenges, the line is accumulating sediment such that several manholes are now nearing a condition of surcharge. There is a thus very real (reasonably foreseeable) potential for spill, overflow, or failure if the current deficiencies are not corrected, and such an event would adversely impact water quality in the Creek and/or Lagoon, with the potential for substantial adverse effects on sensitive habitat, including but not limited to state- and federally jurisdictional wetlands and waters. There could also be corollary adverse impacts on special-status species. With no rehabilitation, and no new access provided to enable a full program of inspections, cleaning, and maintenance, the No Project/No Action Alternative would thus have the **potential for significant impacts under both CEQA and NEPA relative to biological resources. Because these impacts would not be reliably averted without a separate future discretionary project or projects, they are also considered unavoidable.**

Any or all of the adverse outcomes identified here for the No Project/No Action Alternative would also be contrary to City policies and ordinances protecting biological resources, including protection for the Escondido Creek corridor, Lagoon habitats, and wetlands in general. They would also be inconsistent with the spirit of draft and adopted conservation plans covering the North County area. The No Project/No Action Alternative is therefore also considered to have **significant and unavoidable impacts in the following arenas:**

- BIO7 – Potential to Conflict with Local Policies or Regulations Protecting Biological Resources
- BIO8 – Potential to Conflict with an Adopted Conservation Plan

References Used in Preparing this Chapter

- California Department of Fish and Game. 2012. *Native Plant Conservation*. Available: http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/nat_plnt_consv.html. Accessed: January 2012.
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