

APPENDIX E

Biological Resources Technical Report

**BIOLOGICAL RESOURCES TECHNICAL REPORT
FOR THE
NORTH RIVER FARMS PROJECT
OCEANSIDE, CALIFORNIA**

Prepared for:

Integral Communities
2235 Encinitas Boulevard, Suite 216
Encinitas, California 92024
Contact: Ninia Hammond

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Contact: Patricia Schuyler

JANUARY 2019

Biological Resources Technical Report for the North River Farms Project

TABLE OF CONTENTS

<u>Section</u>	<u>Page No.</u>
1 INTRODUCTION.....	1
1.1 Project Description.....	1
1.2 Applicable Regulations.....	2
1.2.1 Federal.....	2
1.2.2 State.....	7
1.2.3 Regional Planning Context.....	10
2 PROJECT SETTING.....	15
2.1 Project Location.....	15
2.2 Climate.....	15
2.3 Soils.....	15
2.4 Terrain.....	16
2.5 Land Uses.....	16
2.5.1 On-Site Land Uses.....	16
2.5.2 Surrounding Land Uses.....	16
2.6 Watersheds and Hydrology.....	16
3 METHODS.....	19
3.1 Literature Review.....	19
3.2 Field Reconnaissance.....	19
3.2.1 Vegetation Community and Land Cover Mapping.....	20
3.2.2 Flora.....	20
3.2.3 Fauna.....	21
3.2.4 Special-Status and/or Regulated Resources.....	21
3.2.5 Survey Limitations.....	23
4 RESULTS.....	25
4.1 Vegetation Communities, Land Covers, and Floral Diversity.....	25
4.1.1 Southern Arroyo Willow Riparian Forest.....	26
4.1.2 Disturbed Southern Willow Scrub.....	26
4.1.3 Mulefat Scrub.....	26
4.1.4 Non-Vegetated Channel.....	31
4.1.5 Disturbed Wetland.....	31
4.1.6 Disturbed Habitat.....	32
4.1.7 Urban/Developed.....	32
4.1.8 Row Crops.....	33

Biological Resources Technical Report for the North River Farms Project

TABLE OF CONTENTS (CONTINUED)

<u>Section</u>	<u>Page No.</u>
4.1.9 Non-Native Woodland	33
4.1.10 Eucalyptus Woodland	34
4.1.11 Flora	34
4.2 Wildlife	34
4.3 Special-Status/Regulated Resources	34
4.3.1 Special-Status Vegetation Communities	35
4.3.2 Special-Status Plant Species	35
4.3.3 Special-Status Wildlife Species	35
4.3.4 Jurisdictional Resources	36
4.4 Wildlife Corridors and Habitat Linkages	38
4.4.1 Project Site	40
4.4.2 Oceanside Subarea Plan	40
5 PROJECT IMPACTS	41
5.1 Direct Impacts	41
5.1.1 Vegetation Communities	42
5.1.2 Special-Status Plants	47
5.1.3 Special-Status Wildlife	47
5.1.4 Jurisdictional Resources	47
5.1.5 Habitat Linkages/Wildlife Corridors	48
5.2 Indirect Impacts	48
5.2.1 Vegetation Communities and Jurisdictional Resources	48
5.2.2 Special-Status Plants	49
5.2.3 Special-Status Wildlife	49
5.2.4 Habitat Linkages/Movement Corridors	50
5.3 Cumulative Impacts and Impacts to Regional Resource Planning	50
6 SIGNIFICANT IMPACTS	53
6.1 Explanation of Findings of Significance	53
6.2 Vegetation Communities and Jurisdictional Resources	53
6.3 Impacts to Regional Resource Planning	54
6.4 Special-Status Plants	55
6.5 Special-Status Wildlife Species	55
7 MITIGATION AND MINIMIZATION MEASURES	57
8 REFERENCES	63

Biological Resources Technical Report for the North River Farms Project

TABLE OF CONTENTS (CONTINUED)

Page No.

APPENDICES

A	Plant Compendium	
B	Wildlife Compendium	
C	Special-Status Plant Species Potential to Occur on the Project Site	
D	Special-Status Wildlife Species Not Expected or Low Potential to Occur on the Project Site	
E	Jurisdictional Delineation Data Forms	

FIGURES

1	Regional Map.....	3
2	Vicinity Map.....	5
3	Regional Planning Context Map.....	13
4	FEMA Floodplain Map.....	17
5a	Biological Resources Map.....	27
5b	Biological Resources Map.....	29
6a	Biological Resources with Limits of Impacts Map.....	43
6b	Biological Resources with Limits of Impacts Map.....	45

TABLES

1	Schedule of Surveys.....	19
2	Vegetation Communities and Land Covers.....	25
3	Jurisdictional Resources.....	37
4	Direct Permanent Impacts to Vegetation Communities.....	42
5	Direct Permanent Impacts to Jurisdictional Resources.....	48

Biological Resources Technical Report for the North River Farms Project

INTENTIONALLY LEFT BLANK

Biological Resources Technical Report for the North River Farms Project

1 INTRODUCTION

The proposed 176.6-acre North River Farms Project (i.e., project site) is located in the South Morro Hills area, within the north-eastern portion of the City of Oceanside, California (Figure 1). The 176.6 acres project site, and approximately 4.63 acres of off-site improvements, are included in this biological analysis. The project site is approximately 0.5 mile north of Highway 76 and approximately 0.7 mile east of Vandergrift Boulevard. North River Road generally bisects the project into north and south sections with mainly agricultural land and single-family home dwellings encompassing the entire project site. Existing agriculture and the San Luis Rey River are located on the southern border of the project site (Figure 2).

The purpose of this biological resources report is to document the biological resources that are present or have potential to occur on the project site and are recognized by local, state, or federal resource agencies as special-status or sensitive through the following: a literature review, a reconnaissance level field survey, and a formal jurisdictional delineation. This report also analyzes the potential direct and indirect impacts to special-status biological resources resulting from the proposed project; the biological significance of the site with respect to regional biological resource planning documents and policies; and discusses mitigation measures that will reduce significant biological impacts to a less-than-significant level consistent with federal, state, and local regulations, including the California Environmental Quality Act (CEQA).

1.1 Project Description

The North River Farms Project envisions the development of a high quality agriculturally focused community. A neighborhood that is connected to the greater land and its neighboring uses, one that promotes healthy food and healthy living, and brings generations and the surrounding region together through agriculture, education, sustainable living and commerce. The proposed Project will provide access to agriculture in a way that is usable, tangible and educational. The North River Farms Project presents a unique opportunity to bring a new type of development to Oceanside, one that will complement surrounding agricultural, residential, institutional, and commercial development.

The proposed Project designates four separate districts that will support a variety of uses. Such uses could include an educational center at the Village Core, a boutique hotel, flexible retail and commercial uses for maker spaces, collaborative office spaces, a restaurant or community uses, estate style homes, traditional single-family detached, cluster developments, multi-family attached clusters, and townhouses.

Biological Resources Technical Report for the North River Farms Project

The Project establishes an overall development range that could allow for a hotel, educational, commercial and residential uses with a residential unit cap of 689 dwelling units. This corresponds to an overall density range of approximately 4 dwelling units per gross acre to meet local housing needs.

The project components discussed in this report include the proposed northerly parcel, which is located on site north of North River Road; the proposed southerly parcel, which is located on site south of North River Road; the City's ROW; and two off-site areas that extend south of the project site and will be subject to impacts. Additional off-site impacts include roadway network improvements at North River Road, Wilshire Road and Douglas Avenue.

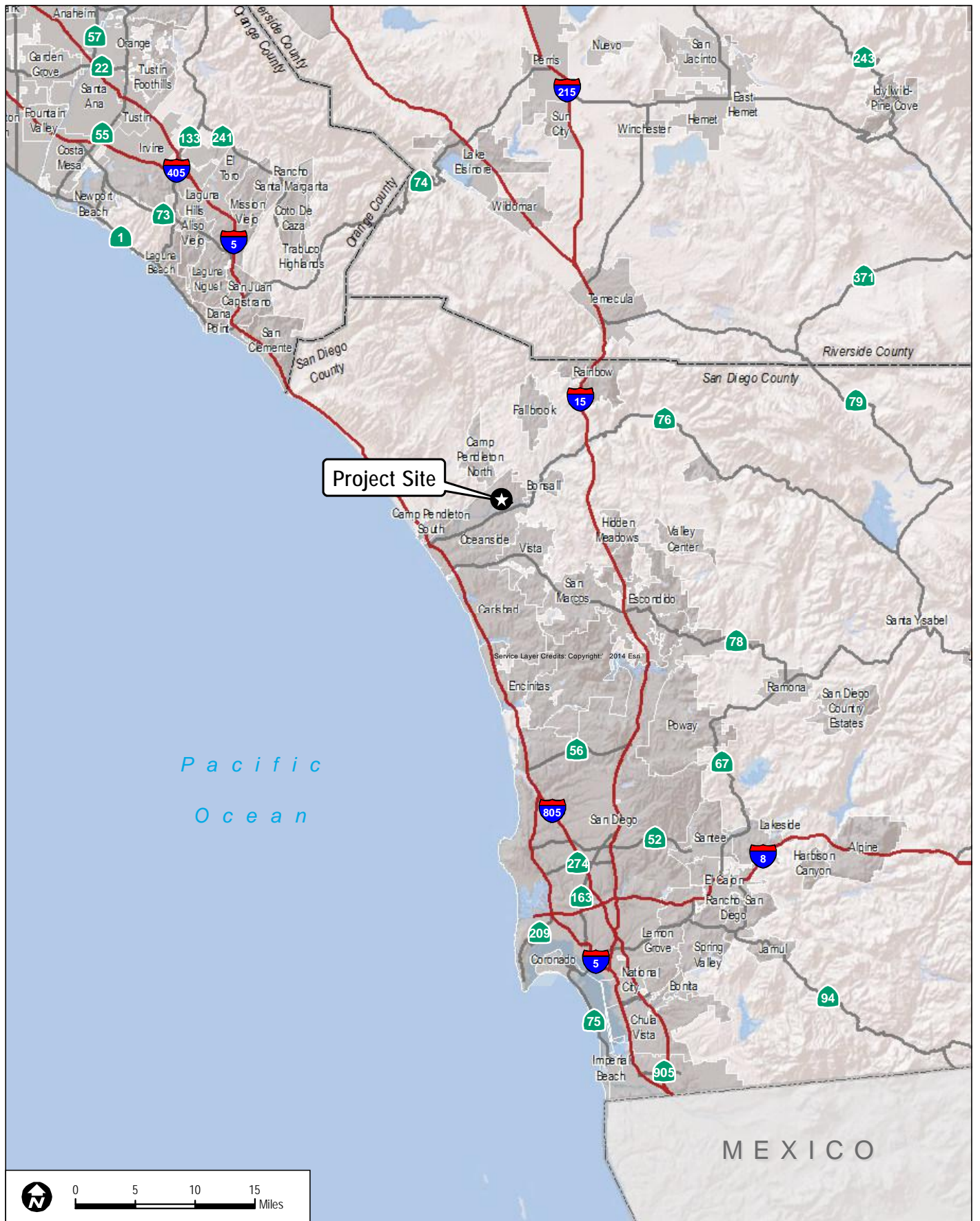
1.2 Applicable Regulations

1.2.1 Federal

Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 U.S.C. 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration, and National Marine Fisheries Service. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. Under provisions of Section 9(a)(1)(B) of FESA, it is unlawful to "take" any listed species. "Take" is defined in Section 3(19) of FESA as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

In 1982, the FESA was amended to give private landowners the ability to develop Habitat Conservation Plans (HCPs) pursuant to Section 10(a) of the FESA. Upon development of an HCP, the USFWS can issue incidental take permits for listed species where the HCP specifies, at minimum, the following: (1) the level of impact that will result from the taking; (2) steps that will minimize and mitigate the impacts; (3) funding necessary to implement the plan; (4) alternative actions to the taking considered by the applicant and the reasons why such alternatives were not chosen; and (5) such other measures that the Secretary of the Interior may require as being necessary or appropriate for the plan. The draft Oceanside Subarea Habitat Conservation Plan/Natural Communities Conservation Plan (Oceanside Subarea Plan) serves as a Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of FESA, and as a Natural Community Conservation Plan (NCCP) pursuant to the California NCCP Act of 1991 (MSCP 1998).



DUDEK

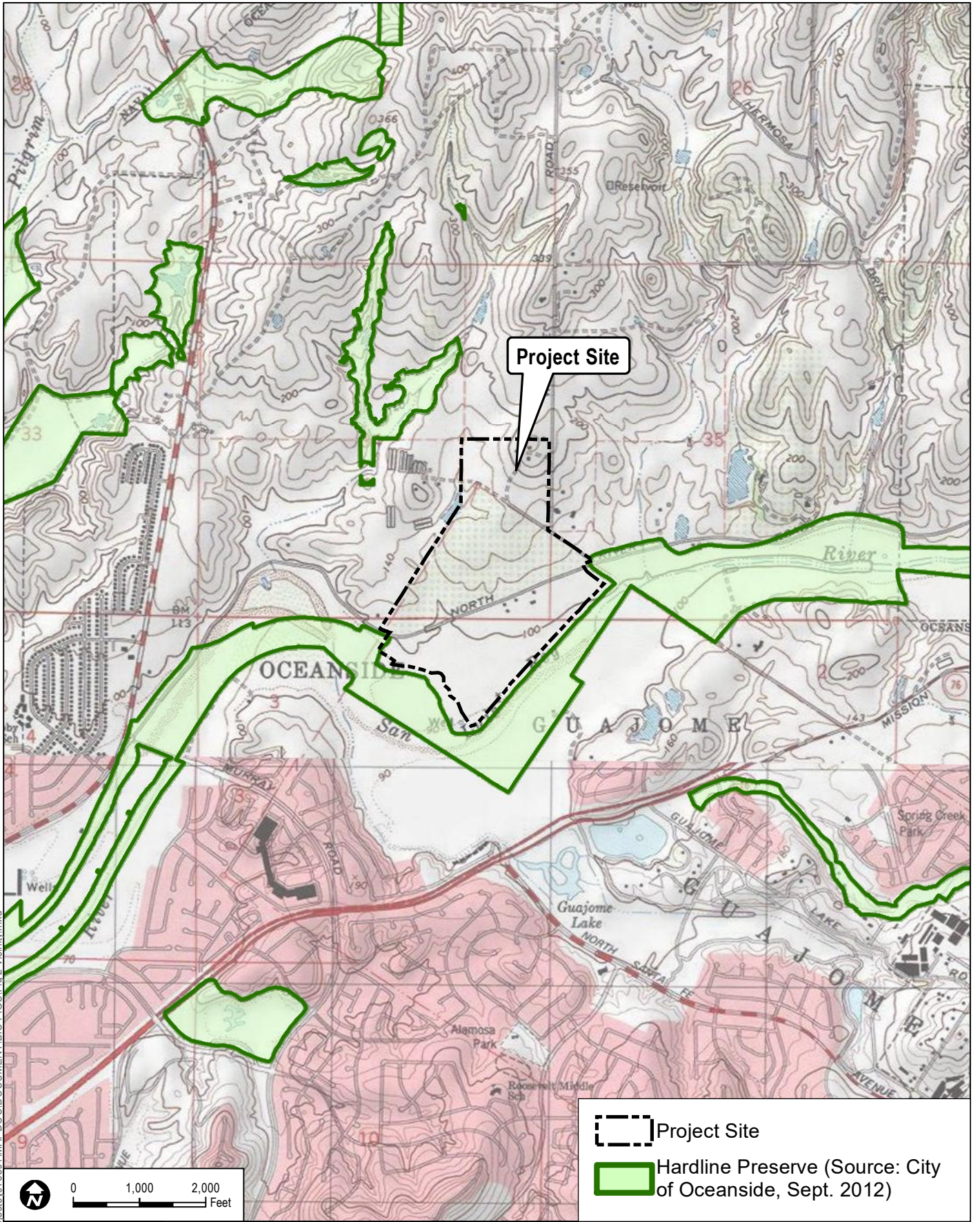
9758-01

Biological Resources Technical Report for the North River Farms Project

FIGURE 1
Regional Map

**Biological Resources Technical Report
for the North River Farms Project**

INTENTIONALLY LEFT BLANK



Document Path: Z:\Projects\1975801\MAPDOC\DOCUMENT\BIO FIGS\Fig2_Vicinity.mxd

DUDEK

9758-01

SOURCE: USGS 7.5-Minute Series Quadrangle.

Biological Resources Technical Report for the North River Farms Project

**FIGURE 2
Vicinity Map**

Biological Resources Technical Report for the North River Farms Project

INTENTIONALLY LEFT BLANK

Biological Resources Technical Report for the North River Farms Project

FESA (16 U.S.C. 1531 et seq.) is implemented by USFWS through a program that identifies and provides for protection of various species of fish, wildlife, and plants deemed to be in danger of or threatened with extinction. As part of this regulatory act, FESA provides for designation of critical habitat, defined in FESA Section 3(5)(A) as specific areas within the geographical range occupied by a species where physical or biological features “essential to the conservation of the species” are found and that “may require special management considerations or protection.” Critical habitat may also include areas outside the current geographical area occupied by the species that are nonetheless “essential for the conservation of the species.” There is Critical Habitat for three listed species, least Bell’s vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and arroyo toad (*Anaxyrus californicus*), within the project site (USFWS 2016b).

Clean Water Act

Pursuant to Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (ACOE) regulates the discharge of dredged and/or fill material into “waters of the United States.” The term “wetlands” (a subset of waters) is defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas” (33 CFR 328.3(b)). In the absence of wetlands, the limits of ACOE jurisdiction in non-tidal waters, such as intermittent streams, extend to the “ordinary high water mark” (33 CFR 328.3(e)).

1.2.2 State

California Endangered Species Act

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

Biological Resources Technical Report for the North River Farms Project

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

California Fish and Game Code

Streambed Alteration Agreement

Pursuant to Section 1602 of the Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. A Streambed Alteration Agreement is required for impacts to jurisdictional wetlands in accordance with Section 1602 of the California Fish and Game Code.

Fully Protected Species

Sections 3511, 4700 and 5050 and 5515 of the California Fish and Game Code designates certain birds, mammals, reptiles and amphibians and fish as “fully protected” species. Fully protected species may not be taken or possessed without a permit from the Fish and Game Commission. CDFW may not authorize the take of such species except (1) for necessary scientific research, (2) for the protection of livestock, and (3) when the take occurs for fully protected species within an approved NCCP, such as the MSCP that covers the Project Area.

Resident and Migratory Birds

The California Fish and Game Code provides protection for wildlife species. It states that no mammals, birds, reptiles, amphibians, or fish species listed as fully protected can be “taken or possessed at any time.” In addition, CDFW affords protection over the destruction of nests or eggs of native bird species (CFGF Section 3503), and it states that no birds in the orders of Falconiformes or Strigiformes (birds of prey) can be taken, possessed, or destroyed (CFGF Section 3503.5). CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock (CFGF Section 3511). Separate from federal and state designations of species, CDFW designates certain vertebrate species as Species of Special Concern based on declining population levels, limited ranges, and/or continuing threats that have made them vulnerable to extinction.

Biological Resources Technical Report for the North River Farms Project

For the purposes of these state regulations, CDFW currently defines an active nest as one that is under construction or in use and includes existing nests that are being modified. For example, if a hawk is adding to or maintaining an existing stick nest in a transmission tower, then it would be considered to be active and covered under these Fish and Game Code Sections.

California Native Plant Protection Act

The Native Plant Protection Act of 1977 (CFGF Section 1900–1913) directed CDFW to carry out the legislature’s intent to “preserve, protect and enhance rare and endangered plants in this State.” The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as “endangered” or “rare,” and to protect endangered and rare plants from take. When CESA was passed in 1984, it expanded on the original Native Plant Protection Act, enhanced legal protection for plants, and created the categories of “threatened” and “endangered” species to parallel FESA. CESA categorized all rare animals as threatened species under CESA, but did not do so for rare plants, which resulted in three listing categories for plants in California: rare, threatened, and endangered. The Native Plant Protection Act remains part of the California Fish and Game Code, and mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and project proponents.

Porter–Cologne Water Quality Control Act

The intent of the Porter–Cologne Water Quality Control Act is to protect water quality and the beneficial uses of water, and it applies to both surface water and groundwater. Under this law, the State Water Resources Control Board develops statewide water quality plans, and the Regional Water Quality Control Board (RWQCB) develops basin plans that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under the Porter–Cologne Water Quality Control Act include isolated waters that are no longer regulated by the ACOE. Developments with impact to jurisdictional waters must demonstrate compliance with the goals of the act by developing Storm Water Pollution Prevention Plans (SWPPPs), Standard Urban Storm Water Mitigation Plans, and other measures to obtain a Clean Water Act Section 401 certification.

California Environmental Quality Act

CEQA requires identification of a project’s potentially significant impacts on biological resources and feasible mitigation measures and alternatives that could avoid or reduce significant impacts. CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose “survival and reproduction in the wild are in immediate jeopardy from one

Biological Resources Technical Report for the North River Farms Project

or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors” (14 CCR 15000 et seq.). A rare animal or plant is defined in Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists “in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or ... [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered ‘threatened’ as that term is used in the federal Endangered Species Act.” Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c). CEQA also requires identification of a project’s potentially significant impacts on riparian habitats (such as wetlands, bays, estuaries, and marshes) and other sensitive natural communities, including habitats occupied by endangered, rare, and threatened species.

1.2.3 Regional Planning Context

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

Within the Oceanside Subarea Plan, the proposed project site is classified primarily as agricultural lands, with some portions mapped as disturbed. The Oceanside Subarea plan has categorized this area as an Agricultural Exclusion Zone, which states that ongoing agricultural practices may continue in this area as long as they do not remove existing habitats (Section 5.3.3 in the City of Oceanside 2010). A small portion of the project, at the intersection of North River Road and Wilshire Road, is within the hardline preserve (Figure 3). Considering that this area is developed (North River Road and agricultural production) it is likely that this is a mapping conflict, which will need to be corrected by the City with concurrence from the Wildlife Agencies per Section 6.5.1 of the Subarea Plan.

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

1. new development

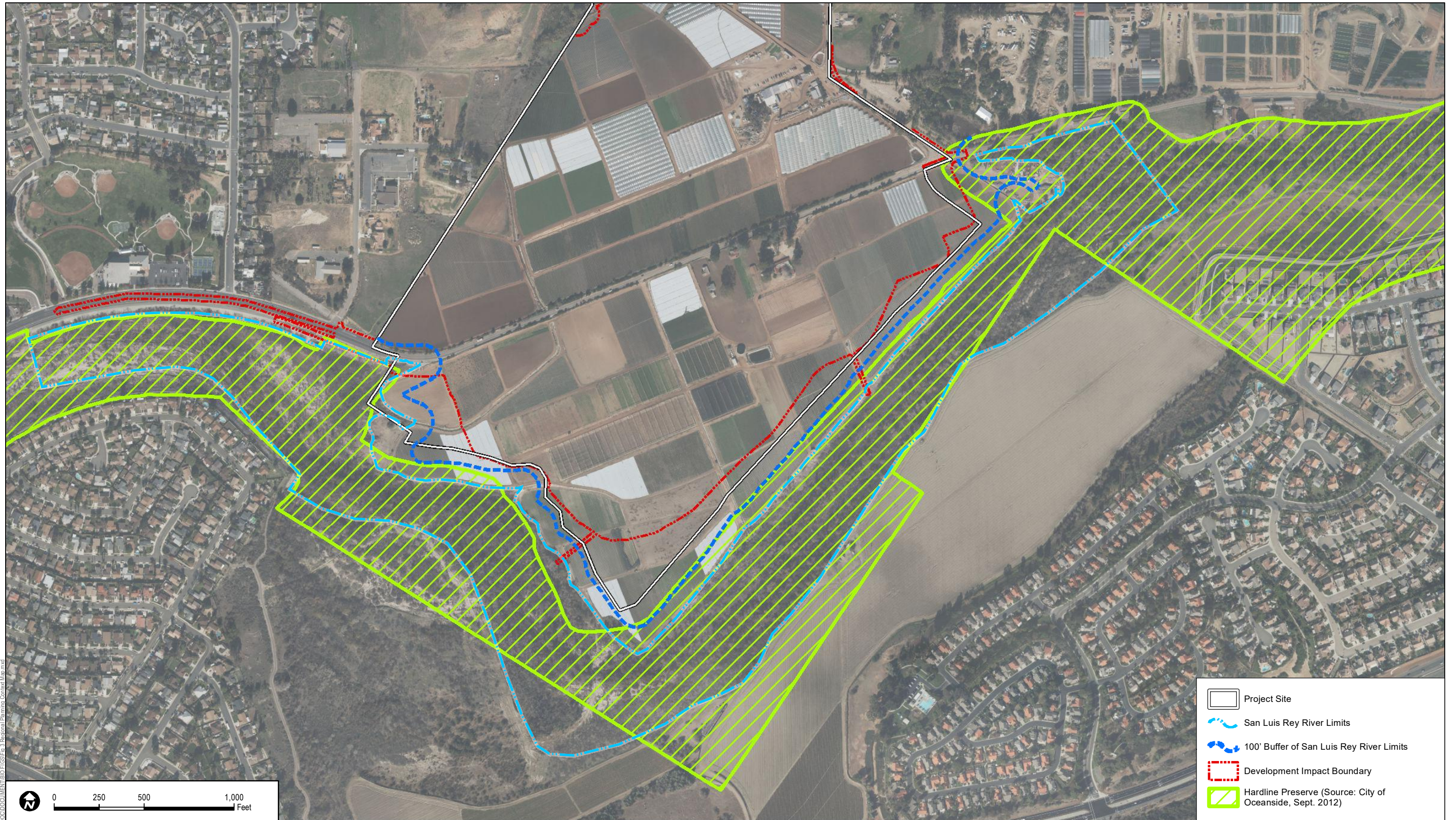
Biological Resources Technical Report for the North River Farms Project






2. new pedestrian and bike trails or passive recreational uses not already planned, and
3. fuel modification activities for new development (City of Oceanside 2010).

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

**Biological Resources Technical Report
for the North River Farms Project**

INTENTIONALLY LEFT BLANK



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

0 250 500 1,000 Feet

FIGURE 3
Regional Planning Context Map

Path: Z:\Projects\9758\1\MapDocs\DOCUMENT\BIO\FIGS\Fig_3_Regional_Planning_Context_Map.mxd

INTENTIONALLY LEFT BLANK

Biological Resources Technical Report for the North River Farms Project

2 PROJECT SETTING

2.1 Project Location

The proposed North River Farms Project is located in the City of Oceanside in northern San Diego County, California (Figure 1) and comprises a portion of Assessor's Parcel Numbers 157-100-83-00 and 157-100-84-00. The project site is bisected in the central region by North River Road and is bordered by existing agriculture and the San Luis Rey River to the south with mixed agricultural and residential development to the north. The site is located on the U.S. Geological Service (USGS) 7.5 minute Morro Hill quadrangle map in section 34; Township 10 South; Range 4 West (Figure 2).

2.2 Climate

The project site is located within the Peninsular Range approximately 1.5 miles from the Pacific Ocean. It has a Mediterranean climate characterized by mild, dry summers and wet winters. Average temperatures near Oceanside range from approximately 53–68°F, and the area generally receives an average rainfall of approximately 10.5 inches per year (Western Regional Climate Center 2016).

2.3 Soils

According to U.S. Department of Agriculture (USDA 2016a), there are nine soil types found on the project site: Bonsall sandy loam, 2% to 9% slopes, eroded; Bosanko clay, 2% to 9% slopes; Bosanko clay, 9% to 15% slopes; Fallbrook sandy loam, 9% to 15% slopes, eroded; Placentia sandy loam, 5% to 9% slopes; Placentia sandy loam, 9% to 15% slopes; Tujunga sand, 0% to 5% slopes; Visalia sandy loam, 0% to 2% slopes; and Visalia sandy loam, 2% to 5% slopes.

According to USDA (2016b), the Bonsall series consists of moderately well drained, sandy loams or loams grading to decomposed granodiorite. Basanko series consists of well-drained, moderately deep clays that formed in material derived from acidic igneous rock. The Fallbrook series consists of deep, well drained sandy loams that formed in material weathered from granitic rocks. The Placentia series soils consist of moderately well drained sandy loams that have sandy clay subsoil; these soils formed in granitic alluvium. The Tujunga series consist of very deep, excessively drained sands derived from granitic alluvium; these soils are on alluvial fans and flood plains. The Visalia series soils consist of moderately well drained, very deep sandy loams derived from granitic alluviums.

Biological Resources Technical Report for the North River Farms Project

2.4 Terrain

The topography of the project site is generally flat, with a slight slope towards the agricultural area and San Luis Rey River in the southern end of the project site. Elevations range from approximately 90 feet above mean sea level (AMSL) in the southern project area, to approximately 240 feet AMSL in the northern project area. Due to the high level of existing disturbance caused from agricultural use, the site is generally topographically uniform except for the general trending southerly slope.

2.5 Land Uses

2.5.1 On-Site Land Uses

The project site is dominated by active agricultural land uses, including a few single family homes currently used as office space and farm operations and abandoned structures associated with agricultural product processing and sales. As previously mentioned, North River Road bisects the project site in the central region and existing unpaved access roads are present throughout the site.

2.5.2 Surrounding Land Uses

To the west of project site is a mix of uses including churches, an elementary school, parks, and a mix of residential uses and older established residential subdivisions. To the east of the project site is Morro Hills, a rural agricultural community with a significant amount of production agricultural land. Beyond existing agriculture lies the San Luis Rey River to the south and a public golf course and residential uses border the project site to the north.

2.6 Watersheds and Hydrology

The project site is located within the Lower San Luis Hydrologic Area (HA) 903.1 of the San Luis Rey Hydrologic Unit (HU). The major water source in the vicinity of the project is the San Luis Rey River, which flows east to west. The portion of the San Luis Rey River immediately south of the project site flows approximately 7.5 miles until its confluence with the Pacific Ocean.

The southern portion of the project site is located within the 100-year floodplain of the San Luis Rey River. The 500-year floodplain occurs north of the 100-year floodplain on site (Figure 4).

INTENTIONALLY LEFT BLANK

Biological Resources Technical Report for the North River Farms Project

3 METHODS

3.1 Literature Review

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

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

3.2 Field Reconnaissance

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

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

Table 1
Schedule of Surveys

Date	Hours	Personnel*	Focus	Conditions
8/4/14	0715-0930	PCS	Reconnaissance survey	68°F, 50% cloud cover, 0–1 mph winds
9/22/14	Not recorded	VJ	Jurisdictional delineation	65°F, 0% cloud cover, 1–3 mph winds
07/13/16	Not recorded	MP	Vegetation mapping and Jurisdictional delineation verification	78°F, 0% cloud cover, 0–1 mph winds

Biological Resources Technical Report for the North River Farms Project

Table 1
Schedule of Surveys

Date	Hours	Personnel*	Focus	Conditions
3/6/17	0752–0947	KD	Vegetation mapping and jurisdictional delineation for the off-site areas	44–55°F; 0% cloud cover; 1–5 mph winds

* Personnel: PCS: Patricia Schuyler, VJ: Vipul Joshi, MP: Marshall Paymard, KD: Katie Dayton.

3.2.1 Vegetation Community and Land Cover Mapping

Vegetation communities and land uses were mapped in the field using both a Trimble GeoXT GPS and mapping directly onto a 150-foot-scale (1 inch = 150 feet) aerial photograph-based field map of the project site. The aerial used for the field maps was the most current at the time of the survey. The accuracy of the GPS unit is sub-meter. A minimum mapping unit of 0.05 acre was used for all special-status vegetation communities. Following completion of the fieldwork, all vegetation polygons were transferred to a topographic base and digitized using ArcGIS and a GIS coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover present on site was determined. Vegetation community classifications used in this report follow Holland (1986) and Oberbauer et al. (2008), where feasible, with modifications to accommodate the lack of conformity of the observed communities to those of Holland (1986) or Oberbauer et al. (2008). Vegetation community classifications also follow those used in Table 5-2 of the Oceanside Subarea Plan (City of Oceanside 2010).

3.2.2 Flora

No focused surveys for special-status plants were conducted; however, all plant species encountered during the field surveys were identified and recorded. Scientific and common names for plant species with a California Rare Plant Rank (CRPR; formerly CNPS List) follow the California Native Plant Society Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2017). For plant species without a CRPR, scientific names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2016), and common names follow the List of Vegetation Alliances and Associations (CDFG 2010) or the USDA Natural Resources Conservation Service Plants Database (USDA 2016). A list of plant species observed on the project site during initial surveys is presented in Appendix A.

Biological Resources Technical Report for the North River Farms Project

3.2.3 Fauna

No focused surveys for special-status wildlife were conducted and due to the placement of development greater than 100-feet from potential habitat (with the exception of a small area of road improvements) and due to lack of suitable habitat for special-status species within the project site. However, during surveys all wildlife species detected during the field surveys by sight, calls, tracks, scat, or other signs were recorded. Binoculars (7×50 magnification) were used to aid in the identification of observed wildlife. In addition to species actually detected, expected wildlife use of the site was determined by known habitat preferences of local species and knowledge of their relative distributions in the area. Latin and common names of animals follow Crother (2012) for reptiles and amphibians, American Ornithologists' Union (AOU) (2016) for birds, Wilson and Reeder (2005) for mammals, and North American Butterfly Association (NABA) (2001) or SDNHM (2002) for butterflies. A cumulative list of wildlife species observed within the project site is presented in Appendix B.

3.2.4 Special-Status and/or Regulated Resources

Jurisdictional Delineation

In September 2014 and again in March 2017, Dudek conducted a formal (routine) jurisdictional wetlands delineation within the project site. All areas identified as being potentially subject to the jurisdiction of U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), and CDFW were field-verified and mapped.

The wetlands delineation was performed in accordance with the methods prescribed in the 1987 Wetlands Delineation Manual (ACOE 1987), the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (ACOE 2008a), and A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (ACOE 2008b). Pursuant to the federal Clean Water Act (CWA), ACOE and RWQCB jurisdictional areas include those supporting all three wetlands criteria described in the ACOE manual: hydric soils, hydrology (i.e., OHWM), and hydrophytic vegetation. Areas regulated by the RWQCB are generally coincident with the ACOE, but can also include isolated features. Features that would be regulated by USACE but are isolated or do not have a significant nexus with traditional navigable “waters of the United States” (TNW) as defined in the Rapanos Guidance are typically regulated by RWQCB under Porter-Cologne Act. CDFW-regulated riparian habitat would be mapped where a predominance of hydrophytic vegetation was associated with a stream channel or where an area supported at least one of the three wetlands indicators (i.e., hydrology, hydric soils, or hydrophytic vegetation).

Biological Resources Technical Report for the North River Farms Project

The ACOE/EPA Rapanos Guidance states that the ACOE will regulate TNW, adjacent wetlands, and relatively permanent waters (RPW) tributary to TNWs, and adjacent wetlands. Non-relatively permanent waters (those exhibiting less than 3 months of continuous surface flows) and their adjacent wetlands would be regulated if there is a significant nexus from the site. Wetlands and riparian habitat under the jurisdiction of ACOE, RWQCB, or CDFW would be considered wetlands by the City of Oceanside.

To assist in the determination of jurisdictional areas on site, hydrology, vegetation, and soils were assessed, and data were collected on approved ACOE forms (Appendix E). The site was evaluated for evidence of an OHWM, surface water, saturation, wetland vegetation, and nexus to a TNW. The extent of any identified jurisdictional areas was determined by mapping the areas with similar vegetation and topography to the sampled locations. A more detailed description of the methods is described below.

The location of data station and the limits of riparian habitat were collected in the field using a 150-scale (1 inch = 150 feet) aerial photograph and topographic base along with Trimble GeoXT GPS unit with sub-meter accuracy. The jurisdictional extents were digitized in GIS based on the GPS data and data collected directly onto field maps into a project-specific GIS using ArcGIS software.

Hydrophytic Vegetation

Seasonal changes in species composition, human land-use practices, wildfires, and other natural disturbances can adversely affect the wetlands vegetation determination. During the delineation, a data station point was considered positive for hydrophytic vegetation if it passed the basic dominance test (Indicator 1), meaning that more than 50% of the dominant species sampled were characterized as either obligate, facultative wetland, and/or facultative per the North American Digital Flora: National Wetland Plant List (Lichvar et al. 2016), or if it passed the prevalence index (Indicator 2), which takes into account all plant species in the community, not just dominants. The standard plot sampling technique was used to sample vegetation within a 10-foot radius for herbaceous vegetation and a 30-foot radius for trees, shrubs, and woody vines (ACOE 1987). All plant species observed during the surveys were identified and recorded (see Appendix A). Where plant identification could not be made in the field, a sample was taken and later identified in the laboratory.

Hydric Soils

According to the National Technical Committee for Hydric Soils, hydric soils are “soils that are formed under conditions of saturation, flooding, or ponding long enough during the growing

Biological Resources Technical Report for the North River Farms Project

season to develop anaerobic conditions in the upper part” (USDA 1994). Soil pits were prepared using a “sharp shooter” shovel to determine if hydric soils were present. The presence of hydric soils was determined through consultations with the ACOE 1987 Wetlands Delineation Manual (ACOE 1987) as well as Field Indicators of Hydric Soils in the United States (USDA and NRCS 2010) and ACOE’s Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (ACOE 2008). Munsell Soil Color Charts were used to determine soil chroma and value. Where feasible, soil pits were prepared to depths ranging from 16 to 18 inches. Dry soils were moistened to obtain the most accurate color. In general, soils from test pits were determined to be hydric if found to be of a chroma one or chroma two with mottles. Excavated soils were examined for evidence of hydric conditions, including low chroma values and mottling, vertical streaking, sulfidic odor, and high organic matter content in the upper horizon. Evidence of previous ponding or flooding was assessed, along with the slope, slope shape, existing landform characteristics, soil material/composition, and hydrophytic vegetation to determine if hydric soils were present.

Hydrology

In accordance with the guidelines prescribed in ACOE’s Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (ACOE 2008), wetland hydrology indicators are separated into four major groups: Group A, B, C, and D. Group A indicators are based on direct observations of surface flow, ponding, and soil saturation/groundwater. Group B indicators consist of evidence that the site has been or is currently subjected to ponding, including, but not limited to watermarks, drift deposits, and sediment deposits. Group C indicators include signs of previous and/or current saturation, including oxidized rhizospheres surrounding living roots and the presence of reduced iron or sulfur, both of which are indicative of extended periods of soil saturation. Group D indicators consist of “vegetation and soil features that are indicative of current rather than historic wet conditions and include a shallow aquitard and results of the FAC-Neutral test.” Each group is subdivided into primary and secondary categories based on their frequency and reliability to occur in the Arid West region.

3.2.5 Survey Limitations

The vegetation mapping and jurisdictional delineation were conducted during the day and during the months of the year when most perennials would have been evident or identifiable. Due to the timing of the surveys, early spring and late fall blooming annual and cryptic annuals may not have been detectable. However, due to the heavily disturbed nature of the site by current farm operations, the presence of special-status plants is considered unlikely and the need for focused surveys was deemed unnecessary.

Biological Resources Technical Report for the North River Farms Project

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

However, the current survey effort provides an accurate representation of the potential for special-status species to occur in the project site based on habitat suitability. The results of the study contained herein provide a reasonable, accurate assessment of the project site.

Biological Resources Technical Report for the North River Farms Project

4 RESULTS

4.1 Vegetation Communities, Land Covers, and Floral Diversity

Ten vegetation communities/land cover types were mapped on site and in off-site areas: southern arroyo willow riparian forest, disturbed southern willow scrub, mulefat scrub, non-vegetated channel, disturbed habitat, urban/developed, row crops, non-native woodland, and eucalyptus woodland. These vegetation communities and land cover types are described below; their acreages are presented in Table 2; and their spatial distributions are presented on Figures 5a and 5b.

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

Table 2
Vegetation Communities and Land Covers

Habitat Types/Vegetation Communities	Code ¹	Habitat Group	Proposed Northerly Parcel (acres)	Proposed Southerly Parcel (acres)	Proposed ROW (acres)	Off-site (acres)	Total Acreage
<i>Riparian/Waters and Wetlands</i>							
Southern Arroyo Willow Riparian Forest*	61320	A	—	—	—	0.02	0.02
Disturbed Southern Willow Scrub*	63320	A	0.07	—	—		0.07
Mulefat scrub*	63310	A	—	0.33	0.04	0.04	0.40
Non-Vegetated Channel*	64200	A	0.14 <u>0.07</u>	0.19 <u>0.11</u>	0.02 <u>0.01</u>	0.10 <u>0.03</u>	0.45 <u>0.21</u>
<i>Subtotal</i>			0.21 <u>0.14</u>	0.52 <u>0.43</u>	0.06 <u>0.05</u>	0.16 <u>0.08</u>	0.94 <u>0.70</u>
<i>Non-Natural Land Covers</i>							
Disturbed Wetland*	11200	A	—	0.05	0.03	—	0.07
Disturbed Habitat	11300	F	0.02	0.16	2.29	0.57	3.05
Urban/Developed	12000	F	0.48	0.32	2.46	2.98	6.22
Row Crops	18320	F	95.18 <u>95.25</u>	69.75 <u>69.84</u>	4.45	0.92 <u>1.00</u>	170.30 <u>170.54</u>
Non-Native Woodland	79000	F	—	0.36	0.21	—	0.57
Eucalyptus Woodland	79100	F	0.10	—	—	—	0.10
<i>Subtotal</i>			95.78 <u>95.84</u>	70.64 <u>70.73</u>	9.43	4.47 <u>4.55</u>	180.32 <u>180.56</u>
Total			95.98	71.16	9.49	4.63	181.27

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

¹ Holland (1986) as modified by Oberbauer et al. (2008).

Biological Resources Technical Report for the North River Farms Project

4.1.1 Southern Arroyo Willow Riparian Forest

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

This vegetation community only occurs in a small area off site along the San Luis Rey. In this area, black willow is dominant with mulefat in the understory and stinging nettle in the herbaceous layer. Southern arroyo willow riparian forest is within the Habitat Group A of the City of Oceanside HCP/NCCP, is considered a special-status vegetation community, and as such mitigation is required for impacts to this vegetation community. In addition, this area is under the jurisdiction of the ACOE, RWQCB, and CDFW (see Section 4.3.4, Jurisdictional Delineation).

4.1.2 Disturbed Southern Willow Scrub

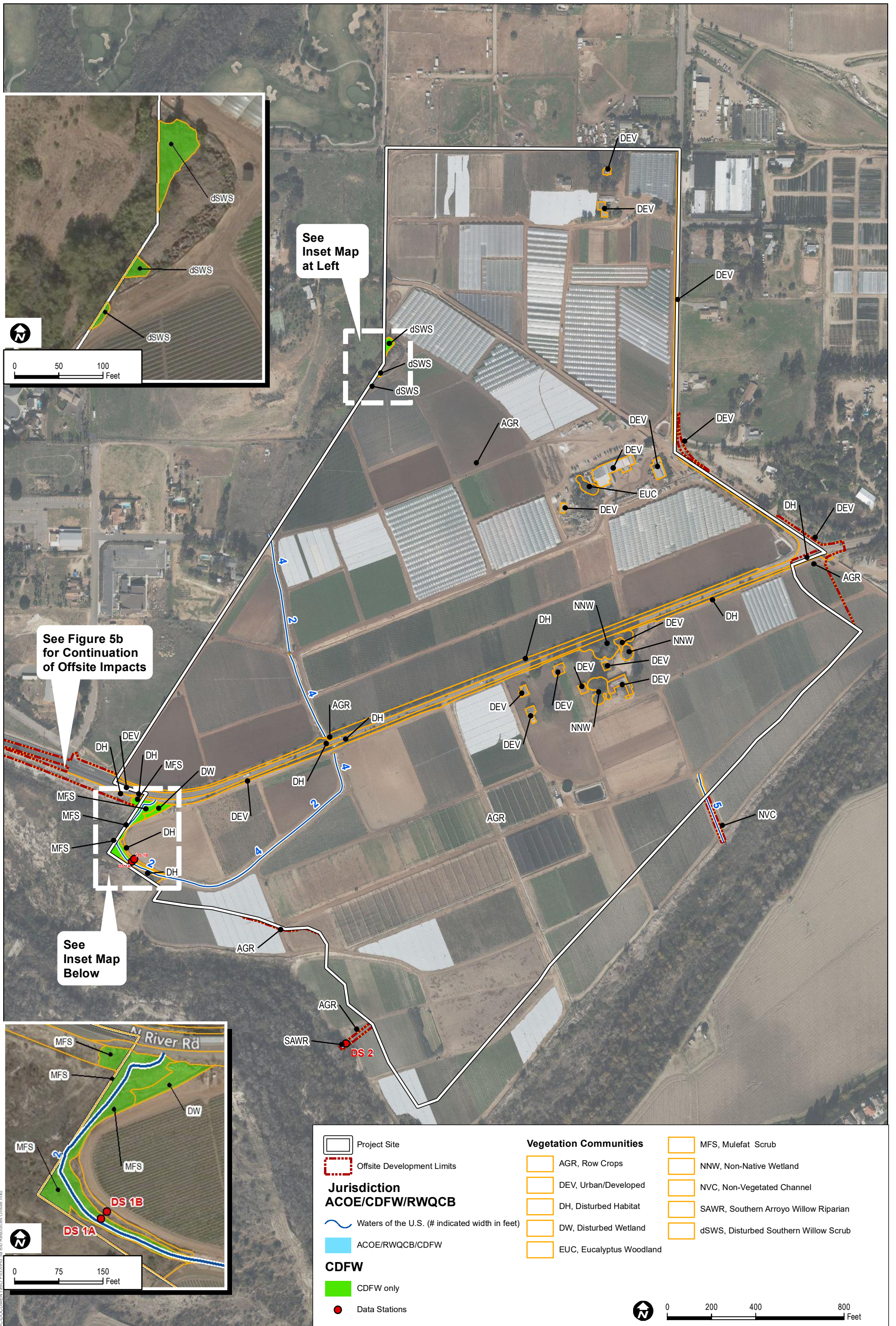
Southern willow scrub is described by Oberbauer et al. (2008) as, dense, broadleafed, winter-deciduous riparian thickets dominated by several willow species (*Salix* spp.). Most stands are too dense to allow much understory development.

On site, this community is dominated by stands of black willow, arroyo willow, mulefat, and non-native species, such as salt cedar (*Tamarix ramosissima*), fennel (*Foeniculum vulgare*), and ladies' tobacco (*Pseudognaphalium californicum*). Southern willow scrub occurs along the north-west project boundary (Figure 5a).

Southern willow scrub is within the Habitat Group A of the City of Oceanside HCP/NCCP, is considered a special-status vegetation community, and as such mitigation is required for impacts to this vegetation community. In addition, this area is under the jurisdiction of the CDFW (see Section 4.3.4, Jurisdictional Delineation).

4.1.3 Mulefat Scrub

Mulefat scrub is described by Oberbauer et al. (2008) as, a successional herbaceous riparian plant community dominated by mulefat and may also contain various willows (*Salix* spp.), stinging nettle, and Santa Barbara sedge (*Carex barbarae*) at low percent covers. This community is commonly found along intermittent stream channels, canyons, and catchment basins.



See Inset Map at Left

See Figure 5b for Continuation of Offsite Impacts

See Inset Map Below

- | | | |
|--|-------------------------------|---------------------------------------|
| Project Site | Vegetation Communities | MFS, Mulefat Scrub |
| Offsite Development Limits | AGR, Row Crops | NNW, Non-Native Wetland |
| Jurisdiction ACOE/CDFW/RWQCB | DEV, Urban/Developed | NVC, Non-Vegetated Channel |
| Waters of the U.S. (# indicated width in feet) | DH, Disturbed Habitat | SAWR, Southern Arroyo Willow Riparian |
| ACOE/RWQCB/CDFW | DW, Disturbed Wetland | dSWS, Disturbed Southern Willow Scrub |
| CDFW | EUC, Eucalyptus Woodland | |
| CDFW only | | |
| Data Stations | | |

INTENTIONALLY LEFT BLANK

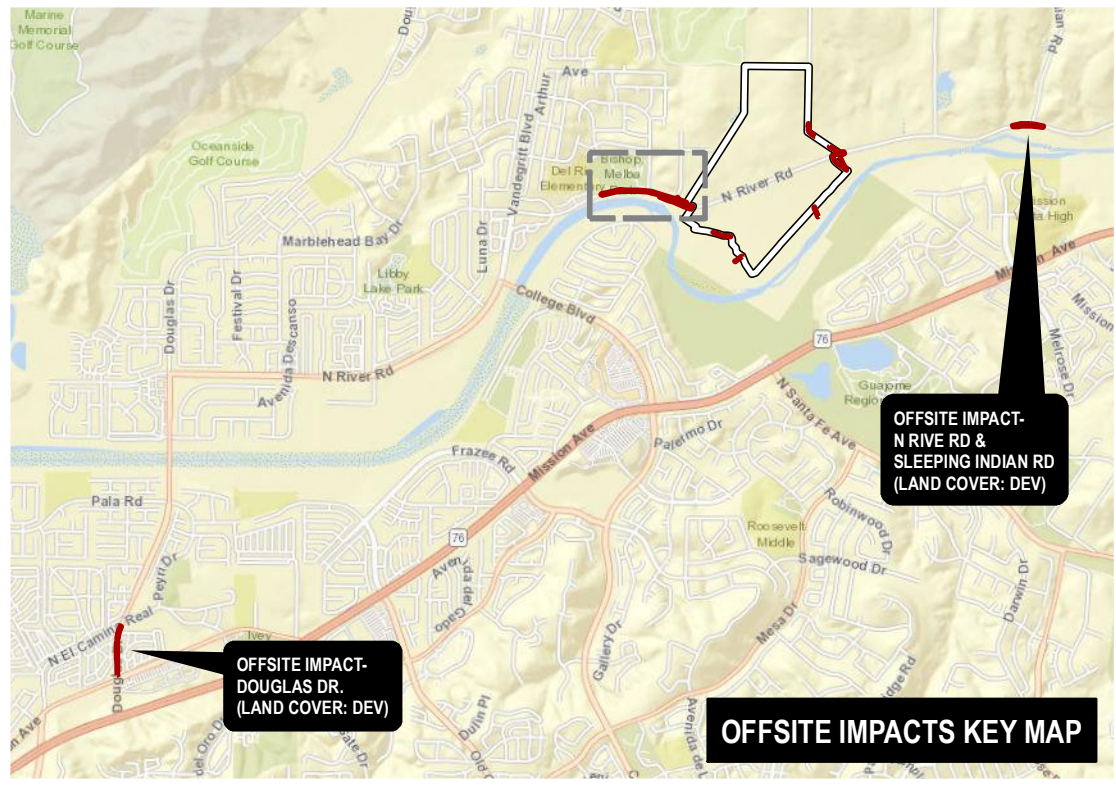


FIGURE 5b
Biological Resources Map

INTENTIONALLY LEFT BLANK

Biological Resources Technical Report for the North River Farms Project

On site, this community is dominated by mulefat with an understory of stinging nettle and poison hemlock (*Conium maculatum*). The mulefat scrub community occurs along a channel in the western portion of the project site, just south of North River Road (Figures 5a and 5b).

Mulefat scrub is within the Habitat Group A of the City of Oceanside HCP/NCCP, is considered a special-status vegetation community, and as such mitigation is required for impacts to this vegetation community. In addition, the channel associated with the mulefat scrub is under the jurisdiction of the ACOE, RWQCB, and CDFW and the entire vegetation community is under the jurisdiction of CDFW (see Section 4.3.4, Jurisdictional Delineation).

4.1.4 Non-Vegetated Channel

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

A non-vegetated channel flows through the project site along the edges of the agricultural fields and under North River Road and then drains into the San Luis Rey River. Historic aerials show that what appears to be a tributary to San Luis Rey River was located where the stream channel is currently mapped in the southern half of the project site and the feature extended north across the road (Nationwide 2018). The channel has been disturbed by both agricultural uses and human manipulation (i.e. berming) likely to divert water for agricultural operations. Another channel extends from the project site limits through the agricultural area to the south and connects to the San Luis Rey River. This feature appears to be excavated in uplands. Therefore, both areas mapped as non-vegetated channels have been artificially manipulated.

Non-vegetated channel is within the Habitat Group A of the City of Oceanside HCP/NCCP, and is considered a special-status vegetation community. As such mitigation is required for impacts to this vegetation community. The larger channelized feature originates off-site to the northwest, traverses the site and discharges to San Luis Rey River. Because this channel appears to be a realignment of an existing feature, and is connected to and the San Luis Rey River, it is likely is under the jurisdiction of ACOE, RWQCB, and CDFW (see Section 4.3.4, Jurisdictional Delineation). The channel that extends from the project site to the San Luis Rey River was excavated and uplands and therefore is likely only jurisdictional under RWQCB and CDFW.

4.1.5 Disturbed Wetland

Disturbed wetland includes areas permanently or periodically inundated by water that have been significantly altered by human activity (Oberbauer et al. 2008). On site, disturbed wetland occurs

Biological Resources Technical Report for the North River Farms Project

south of North River Road east of the channel and associated mulefat scrub. This area is dominated by poison hemlock and stinging nettle, but other weedy forbs/herbs, such as black mustard (*Brassia nigra*) are also present. The northern part of the disturbed wetland includes rip rap.

Disturbed wetland is within the Habitat Group A of the City of Oceanside HCP/NCCP, is considered a special-status vegetation community, and as such mitigation is required for impacts to this vegetation community. In addition, because this area is dominated by hydrophytic vegetation and contiguous with the CDFW-jurisdictional mule fat scrub it is under the jurisdiction of CDFW (see Section 4.3.4, Jurisdictional Delineation).

4.1.6 Disturbed Habitat

Disturbed habitat is described by Oberbauer et al. (2008) as areas that have been physically disturbed by previous human activity and are no longer recognizable as a native or naturalized vegetation association, but continues to retain a soil substrate.

The majority of the site located north of North River farms Road has been significantly disturbed through repeated agricultural uses (Figure 5a). The soils within the disturbed habitat land cover type have been historically tilled and disked, and as such, have little to no vegetative cover present. This habitat type is not dominated by species characteristic of annual grassland per the MHCP definition; however, Russian thistle (*Salsola tragus*), a species noted to occur within disturbed lands per the MHCP definition was observed scattered throughout this land cover type. The disturbed habitat lining North River Road is dominated by non-native acacia (*Acacia* sp.). In the disturbed habitat south of North River Road there is scattered deerweed (*Acmispon glaber* var. *glaber*), but at less than 30% cover. This area also includes low cover of stinging nettle, castorbean (*Ricinus communis*), poison hemlock, fennel, black mustard, and telegraphweed (*Heterotheca grandiflora*).

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

4.1.7 Urban/Developed

Urban/Developed land cover is described by Oberbauer et al. (2008) as, areas that have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer

Biological Resources Technical Report for the North River Farms Project

supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation.

The urban/developed land cover type primarily consists of North River Road and the associated ornamental plantings that line it, two single-family homes, and semi-permanent abandoned farm structures located on site (Figure 5a).

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

4.1.8 Row Crops

Row crops land cover type is described by Oberbauer et al. (2008) as areas comprised of annual and perennial crops grown in rows with open space between the rows. Species composition frequently changes by season and year. Row crops are nearly always artificially irrigated.

The project area located south of North River Road is almost entirely composed of active agriculture (Figure 5a). The herbaceous crops have been planted in rows and are actively being artificially irrigated.

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

4.1.9 Non-Native Woodland

Non-native woodland is described by Oberbauer et al. (2008) as, areas woodland of exotic trees, usually intentionally planted, which are not maintained or artificially irrigated.

On site, this community is primarily composed of Brazilian peppertree (*Schinus terebinthifolius*) Peruvian peppertree (*Schinus molle*), palms, and eucalyptus (*Eucalyptus* spp.). This community occurs just south of North River Road, along the perimeter of an abandoned single-family home (Figure 5a).

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

Biological Resources Technical Report for the North River Farms Project

4.1.10 Eucalyptus Woodland

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

On site, this community is primarily composed of eucalyptus with little to no understory. Eucalyptus habitat occurs near the abandoned farm structures located in the northeast portion of the site (Figure 5a).

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

4.1.11 Flora

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

4.2 Wildlife

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

4.3 Special-Status/Regulated Resources

Endangered, rare, or threatened species, as defined in California Environmental Quality Act (CEQA) Guideline 15380(b) (14 CCR 15000 et seq.), are referred to as “special-status species” in this report and include (1) endangered, threatened, or candidate species recognized in the context of the California Endangered Species Act (CESA) and the federal Endangered Species Act (ESA); (2) plant species with a California Rare Plant Rank (CRPR) 1 through 3; see CDFW special vascular plants list which states “note that all California Rare Plant Rank 1 and 2 and some Rank 3 and 4 plants may fall under Section 15380 of CEQA” (CDFW 2017b; CNPS 2017); (3) California Species of Special Concern (SSC), as designated by the CDFW (CDFW 2017c); (4) mammals and birds that are fully protected (FP) species, as described in Fish and Game

Biological Resources Technical Report for the North River Farms Project

Code, Sections 4700 and 3511; (5) Birds of Conservation Concern (BCC), as designated by the U.S. Fish and Wildlife Service (USFWS 2008); and species proposed for coverage under the draft Oceanside Subarea Plan (Table 3–4, City of Oceanside 2010).

4.3.1 Special-Status Vegetation Communities

Vegetation communities considered special-status are those communities that require mitigation by the City of Oceanside (City of Oceanside 2010). There are five vegetation communities considered sensitive on site according to the MHCP and Oceanside Subarea Plan (2010): southern arroyo willow riparian forest, disturbed southern willow scrub, mulefat scrub, non-vegetated channel, and disturbed wetland (Figures 5a and 5b). These communities are all included in Habitat Group A.

4.3.2 Special-Status Plant Species

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

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

4.3.3 Special-Status Wildlife Species

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

Biological Resources Technical Report for the North River Farms Project

species matrix is presented in Appendix D and includes species proposed for coverage under the draft Oceanside Subarea Plan (Table 3–4, City of Oceanside 2010).

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

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

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

There are three species with USFWS Critical Habitat within the project site: least Bell’s vireo, southwestern willow flycatcher, and arroyo toad (USFWS 2016b). However, there is limited suitable riparian habitat for these species within the project site.

4.3.4 Jurisdictional Resources

There are jurisdictional features located in the Project site. These resources, including CDFW jurisdictional riparian habitat (disturbed southern willow scrub, mulefat scrub, disturbed wetland) and ACOE/RWQCB/CDFW jurisdictional wetlands/riparian habitat (southern arroyo willow riparian forest) and ACOE/RWQCB non-wetland waters and CDFW streambed (non-vegetated channel), are shown on Figures 5a and 5b. Table 3 provides a summary, in acreages by project area, of these jurisdictional resources. These resources are discussed in more detail below by vegetation community. Jurisdictional delineation data forms are provided in Appendix E.

Biological Resources Technical Report for the North River Farms Project

**Table 3
Jurisdictional Resources**

Jurisdiction	Vegetation Community	Northerly Parcel (acres)	Southerly Parcel (acres)	Proposed ROW (acres)	Off Site (acres)	Total Acreage
ACOE/RWQCB Non-Wetland Waters/CDFW Streambed	Non-Vegetated Channel	0.14	0.19	0.02	0.10	0.47
ACOE/RWQCB Wetland/CDFW Riparian Habitat	Southern arroyo willow riparian forest	—	—	—	0.02	0.02
CDFW only Riparian Habitat	Disturbed Southern Willow Scrub	0.07	—	—	—	0.07
	Disturbed Wetland	—	0.05	0.03	—	0.07
	Mulefat Scrub	—	0.33	0.04	0.04	0.40
Grand Total		0.21	0.56	0.09	0.16	1.02

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

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

Disturbed Southern Willow Scrub - CDFW Riparian Habitat

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

Biological Resources Technical Report for the North River Farms Project

Mulefat Scrub - CDFW Riparian Habitat

The mulefat scrub community is located along the west perimeter of the project boundary, just south of North River Road (Figure 5b). The mulefat scrub was evaluated to determine if it meets ACOE/RWQCB criteria for wetlands and CDFW criteria for riparian habitat. An evaluation of this area indicated the presence of hydrophytic vegetation, but an absence of hydric soils, wetland hydrology and/or indicators of OHWM. As such, these resources are not considered ACOE/RWQCB wetlands or non-wetland waters. The mulefat scrub would be considered a CDFW-jurisdictional riparian habitat due to the association of hydrophytic vegetation and a defined streambed.

Disturbed Wetland - CDFW Riparian Habitat

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

Non-Vegetated Channel/Non-Wetland Jurisdictional Waters

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

4.4 Wildlife Corridors and Habitat Linkages

Wildlife corridors and habitat linkages can be described at three levels of function: (1) wildlife landscape habitat linkages; (2) wildlife corridors; and (3) wildlife crossings.

Wildlife Landscape Habitat Linkages. Landscape habitat linkages (or simply linkages) are relatively large open space areas that contain natural habitat and provide a connection between at least two larger adjacent open spaces that can provide for both diffusion and dispersal of many species. Linkages can form contiguous tracts of habitat when adjacent to other open space areas. Large open space networks can be formed in this way to connect and conserve habitat through entire regions (Bennett 2003).

Biological Resources Technical Report for the North River Farms Project

Linkages can form large tracts of natural open space, serving both as “live-in” or “resident” habitat and as connections to the larger landscape (e.g., large core habitat areas). Linkages are capable of sustaining certain communities of species in self-contained, functioning ecosystems, thus supporting both plant and animal populations and allowing for gene flow through diffusion of populations over a period of generations, as well as allowing for jump dispersal between neighboring habitats. Linkages may vary in their function depending on the species, serving more as landscape-scale dispersal corridors than habitat for larger or more vagile (i.e., mobile) species, particularly those with large home ranges such as mountain lions. Linkages are, nonetheless, capable of supporting at least a portion of the populations of these larger or more vagile (i.e., mobile) species. Linkages may also serve as migratory routes for ungulates, for example, and thus provide a more natural and sustainable landscape environment for large predators and their prey compared to wildlife corridors through which species are expected to move quickly.

As used here, linkages are defined as large, open space areas that are large enough to support at least a natural habitat mosaic and viable populations of smaller terrestrial species, such as rodents, smaller carnivores (raccoons, skunks, foxes, and weasels), passerine birds, amphibians, reptiles, and invertebrates.

Wildlife Corridors. Rosenberg et al. (1995) distinguish between habitat and wildlife corridors. Habitat provides for the life history components of survivorship, reproduction, and movement. Wildlife corridors are linear landscape elements that provide for species movement and dispersal between two or more habitats but do not necessarily contain sufficient habitat for all life history requirements of a species, particularly reproduction (Rosenberg et al. 1995, 1997). For this reason, while corridors may provide for dispersal of most species, they may not provide for diffusion of populations over a longer time scale. The main prerequisite for corridors is that they increase animal movement between habitat patches. The mechanisms related to the efficacy of corridors are varied and species-specific (Soulé and Gilpin 1991; Beier and Loe 1992; Rosenberg et al. 1995; Haddad and Tewksbury 2005). Additionally, even if the corridor itself does not provide habitat functions, it is expected to at least maintain plant and animal populations, gene flow between the constituent subpopulations, and biodiversity (Haddad 1999). This ebb and flow of genetic diversity should occur if organisms are traversing corridors that physically connect geographically patchy populations (Beier and Loe 1992). Corridors thus provide physical conduits for maintaining specific genetic diversity, species richness, and community integrity. However, corridors may also connect population sources to “sink habitat” that can result in the net reduction of a population; in other words, the sink habitat either does not support the full life history of the species, or populations are more vulnerable to risk factors.

Biological Resources Technical Report for the North River Farms Project

Wildlife Crossings. Wildlife crossings are locations where wildlife must pass through physically constrained environments (e.g., roads, development) during movement within home ranges or during dispersal or migration between core areas of suitable habitat. Development and roads may transect or interrupt an existing natural crossing, creating dangerous or impassible barriers that impede the natural movement of a species and possibly expose it to higher risks of injury and mortality from adverse human interactions, such as increased vehicle collisions at roadways where no safe wildlife passage is provided (Meese et al. 2007).

4.4.1 Project Site

The San Luis Rey River Valley is identified as a hardline Preserve in the Oceanside Subarea Plan as well as the MHCP (Figure 2), to allow for east-west wildlife movement. However, wildlife movement is constrained by existing residential housing and active agricultural lands. Large mammals, such as mule deer (*Odocoileus hemionus*) and mountain lion (*Puma concolor*), would not be expected to move through this area due to the limited native habitat present and urban surroundings. General wildlife movement could occur in the riparian corridor associated with the San Luis Rey River, which is present off site to the south of the project development boundary. The area has the potential to provide open space for raptors to forage and potentially nest, but due to the lack of habitat diversity and agricultural environment, only a limited number of synanthropic species would be expected to move through the project site. Therefore, the project site does not provide for considerable wildlife movement or serve as an important habitat linkage.

4.4.2 Oceanside Subarea Plan

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

Biological Resources Technical Report for the North River Farms Project

5 PROJECT IMPACTS

This section addresses direct, indirect, and cumulative impacts to biological resources that would result from implementation of the proposed project. The spatial distribution of the limits of grading as it affects the biological resources are presented in Figures 6a and 6b.

Direct impacts refer to the permanent loss of on-site habitat and the plant and wildlife species that it contains. All biological resources within the direct permanent impact area are considered 100% lost. Direct impacts were quantified by overlaying the proposed project footprint onto the biological resources map of the site. The proposed development of the entire site is considered to be a direct permanent impact.

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

Cumulative Impacts refer to incremental individual environmental effects of two or more projects when considered together. These impacts taken individually may be minor, but collectively significant as they occur over a period of time.

5.1 Direct Impacts

As described in Section 1.1, the proposed project includes the development of most of the project site, as well as all of the ROW and off-site area, into multiple districts including residential uses, commercial uses, and educational facilities. In addition, there are off-site improvements associated with storm drainage facilities, sewer improvements and roadway network improvements. Based on this project description, direct impacts (permanent and temporary) will likely occur to the vast majority of the proposed project boundary. Per the Oceanside Subarea Plan (2010; Section 5-18) a 100-foot conservation buffer (i.e., no impacts) shall be placed around the San Luis Rey River, beginning at the outer edge of the riparian vegetation. Impacts within the buffer are proposed;

Biological Resources Technical Report for the North River Farms Project

however, they are required for improvements to North River Farms Road and for off-site storm drain easements and outfalls to the San Luis Rey River, which are allowable uses within the 100-foot conservation buffer. Direct impacts as they relate to biological resources are discussed below.

5.1.1 Vegetation Communities

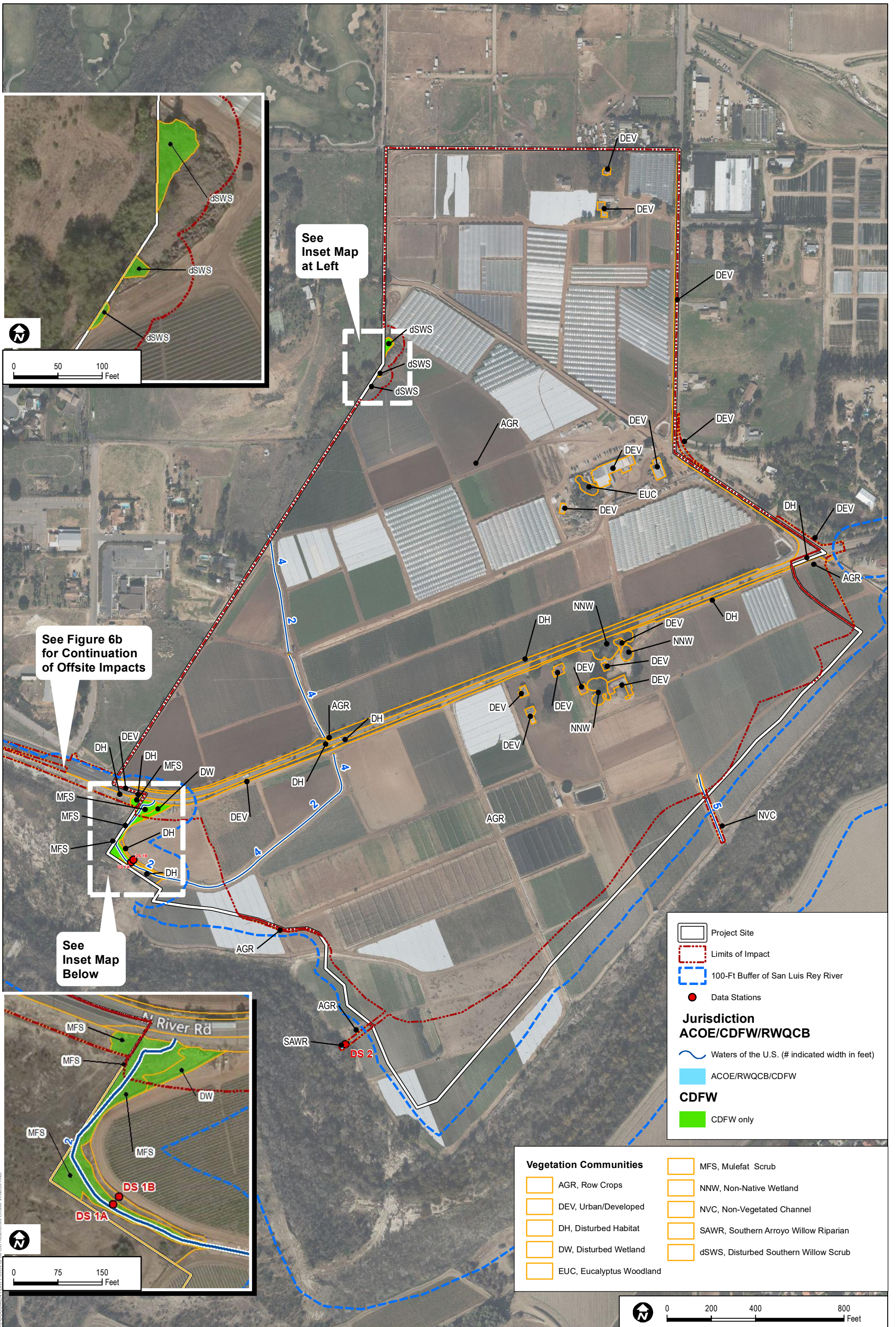
The current site plan of the project will result in direct permanent impacts to the vast majority of project boundary (approximately 170 acres), of which approximately 0.420.65 acre are considered sensitive. Direct permanent impacts to vegetation communities are presented in Table 4 and Figures 6a and 6b. There are no temporary direct impacts as a result of the project.

Table 4
Direct Permanent Impacts to Vegetation Communities

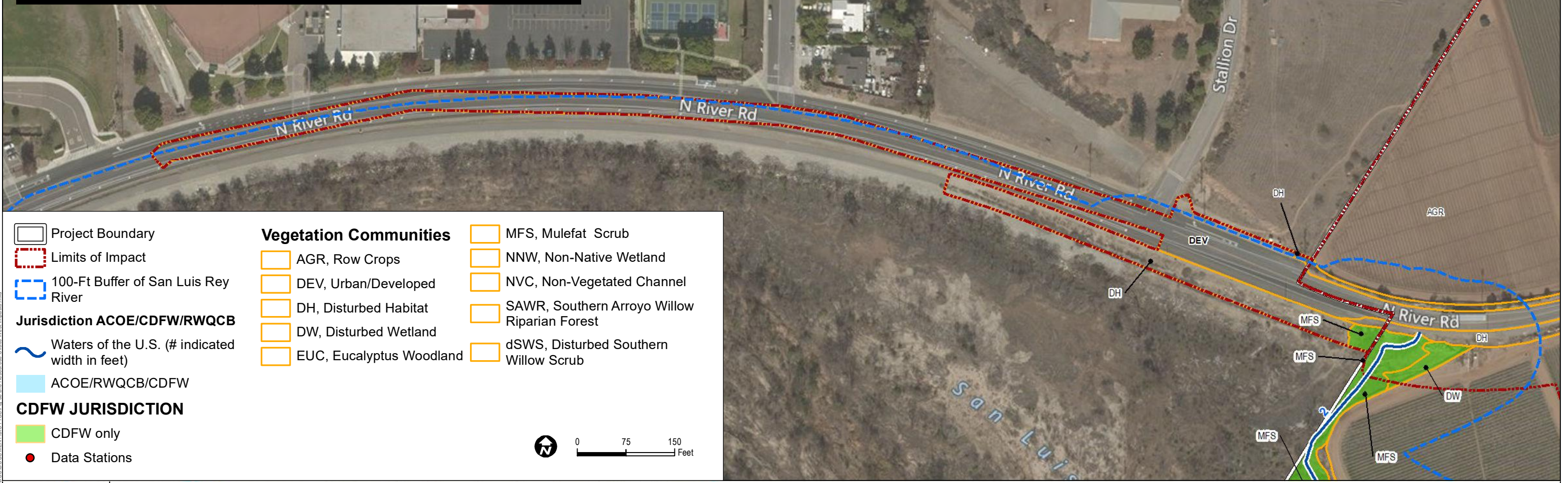
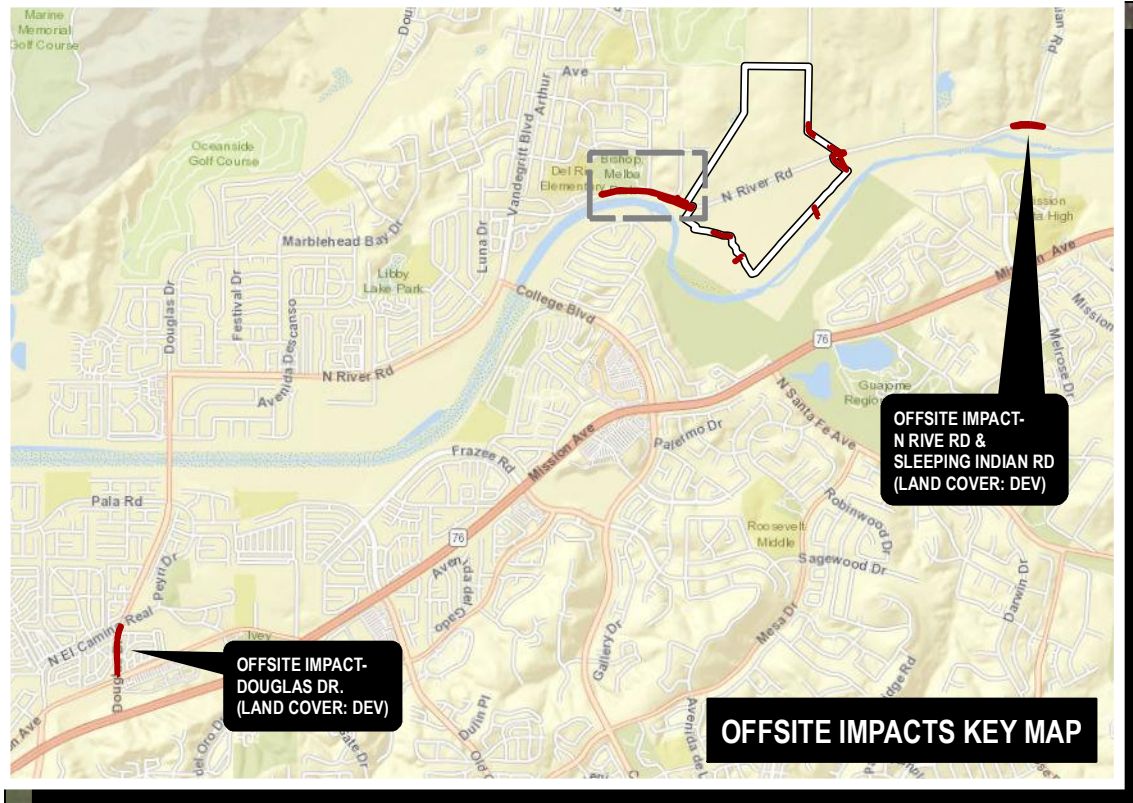
Habitat Types/Vegetation Communities	Code ¹	Habitat Group	Total Acreage	Proposed Northerly Parcel Impacts (acres)	Proposed Southerly Parcel Impacts (acres)	Proposed ROW Impacts (acres)	Off-site Impacts (acres)	Total Acreage Impacted
<i>Sensitive Vegetation Communities</i>								
Southern Arroyo Willow Riparian Forest*	61320	A	0.02	—	—	—	0.02	0.02
Disturbed Southern Willow Scrub*	63320	A	0.07	—	—	—	—	—
Mulefat scrub*	63310	A	0.40	—	0.07	0.04	0.04	0.15
Non-Vegetated Channel*	64200	A	0.450.21	0.140.07	0.160.07	0.010.02	0.100.03	0.420.18
Disturbed Wetland*	11200	A	0.07	—	0.04	0.03	—	0.07
<i>Subtotal</i>			1.100.77	0.140.07	0.270.18	0.090.08	0.160.09	0.650.42
<i>Non-Sensitive Vegetation Communities</i>								
Disturbed Habitat	11300	F	3.05	0.02	—	2.29	0.57	2.88
Urban/Developed	12000	F	6.22	0.48	0.32	2.46	2.98	6.22
Row Crops	18320	F	170.30170.54	94.7094.77	59.1159.20	4.45	0.921.00	159.19159.43
Non-Native Woodland	79000	F	0.57	—	0.36	0.21	—	0.57
Eucalyptus Woodland	79100	F	0.10	0.10	—	—	—	0.10
<i>Subtotal</i>			180.32180.48	95.3095.37	59.7970.68	9.40	4.474.55	168.97169.20
Total			181.27	95.44	60.06	9.49	4.63	169.62

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

¹ Holland (1986) as modified by Oberbauer et al. (2008).



INTENTIONALLY LEFT BLANK



Path: Z:\Projects\975801\MAP\DOC\DOCUMENT\BIO\FIGS\Fig_6b_Bio_Resources_of_Site_West_Impacts.mxd

INTENTIONALLY LEFT BLANK

Biological Resources Technical Report for the North River Farms Project

5.1.2 Special-Status Plants

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

5.1.3 Special-Status Wildlife

No special-status wildlife species were detected on the project site during biological surveys. Wildlife species with a moderate or higher potential to occur as outlined in Appendix D include: pallid bat and western mastiff bat (no roosting habitat for either species). In addition, northern harrier, yellow-breasted chat, yellow warbler, Cooper's hawk, Swainson's hawk, and white-tailed kite may forage on site, but are not expected, or have a low potential, to nest on site. Because these bird species are highly mobile, it is unlikely that the proposed project would result in the loss of individual special-status bird species. Avoidance measures would be applied to avoid impacts during the nesting season for these species.

Construction activities could result in the loss of nests, eggs, and fledglings of nesting birds protected under Section 3503 of the Fish and Game Code if vegetation clearing and ground-disturbing activities occur during the nesting season (February 15 through August 31 for most species, January 15 through August 31 for raptors).

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

5.1.4 Jurisdictional Resources

The Proposed Project would result in direct permanent impacts to approximately 0.65 acre of jurisdictional resources as summarized in Table 5 and shown on Figures 6a and 6b. Approximately 0.44 acre of ACOE/RWQCB/CDFW-jurisdictional area would be impacted, including 0.02 acre of impacts to wetlands/riparian habitat and 0.42 acre of impacts to non-wetland waters/streambed. In addition, the proposed project includes approximately 0.22 acre of impacts to CDFW-only jurisdictional riparian habitat.

Biological Resources Technical Report for the North River Farms Project

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

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

5.1.5 Habitat Linkages/Wildlife Corridors

The project site itself is not located within a movement corridor and is not expected to aid in the movement of wildlife species because of its close proximity to other disturbed and developed sites. Thus, implementation of the proposed project would not directly impact wildlife movement.

5.2 Indirect Impacts

5.2.1 Vegetation Communities and Jurisdictional Resources

For the proposed project, it is assumed that the potential short-term indirect impacts to off-site adjacent vegetation communities and jurisdictional resources resulting from construction activities may include: dust, general human presence, and construction-related soil erosion and runoff. However, all project grading will be subject to the implementation of BMPs and typical restrictions and requirements that address dust control, erosion, and runoff, including the federal Clean Water Act and National Pollution Discharge Elimination System.

Potential long-term indirect impacts to vegetation communities and jurisdictional resources may also occur as a result of the proposed project through introduction of non-native species, increased human presence, and changes in hydrology and fire regimes.

The majority of the surrounding area is developed and mostly vegetated and maintained with ornamental species. Although the native vegetation communities adjacent to the project site are

Biological Resources Technical Report for the North River Farms Project

limited to those riparian vegetation communities associated with the San Luis Rey River occurring west of the project site, minimization measures would be applied to avoid indirect impacts to native vegetation communities. Therefore, with implementation of the minimization measures indirect impacts to off-site native vegetation communities are not expected to occur.

As described in Section 1.2, the City of Oceanside Subarea Plan requires a 100-foot buffer of the San Luis Rey River. Approximately ~~1.503.08~~ acres are expected to be impacted within that buffer as a result of the proposed project. The buffer impacts are discussed in Section 5.3.

5.2.2 Special-Status Plants

Although there are limited vegetation communities associated with the San Luis Rey River that have the potential to support special-status plant species adjacent to the project site, minimization measures would be applied to avoid indirect impacts to special-status plant species. Therefore, with implementation of the minimization measures indirect impacts to off-site special-status plant species are not expected to occur.

5.2.3 Special-Status Wildlife

Wildlife may be indirectly affected in the short-term and long-term by noise and lighting, which can disrupt normal activities and subject wildlife to higher predation risks. Also, adverse edge effects can cause degradation of habitat quality through the invasion of pest species. Breeding birds can be significantly affected by short-term construction-related noise, which can result in the disruption of foraging, nesting, and reproductive activities.

Although the areas adjacent to the project site, or left intact on the project site following implementation of the project, support very limited suitable vegetation for bird nesting, the ornamental trees surrounding the project site may support nesting habitat for raptors. Indirect impacts from construction-related noise may occur to wildlife if construction occurs during the breeding season (i.e., February 15–August 31 for most bird species; and January 1–August 31 for raptors).

The area between the proposed project and the San Luis Rey River will continue to be maintained and operated as active agricultural lands providing a buffer of the existing land use between the River and the proposed project; therefore, indirect impacts occurring to special-status species which use the San Luis Rey River would not change with project implementation. Additionally, minimization measures would be applied to avoid indirect impacts to special-status wildlife species.

Biological Resources Technical Report for the North River Farms Project

5.2.4 Habitat Linkages/Movement Corridors

Wildlife movement through the San Luis Rey River corridor is currently constrained by existing residential housing and active agricultural lands. The project site lacks habitat diversity and only a limited number of synanthropic species would be expected to move through the project site. In addition, the currently active management agriculture area means that human activity is present within the area on a daily basis which generally precludes or reduces the attractiveness of the site for wildlife movement when the San Luis Rey River is in close proximity. The area between the proposed project and the San Luis Rey River will continue to be maintained and operated as active agricultural lands; therefore, no change in indirect impacts to the San Luis Rey River riparian wildlife corridor would occur.

5.3 Cumulative Impacts and Impacts to Regional Resource Planning

Assessing impacts to regional resource planning takes into consideration whether the project is in conflict with the requirements of an adopted plan, such as an NCCP, HCP, an associated subarea plan, or other regional resource planning effort. As described in Section 1.2.3, the proposed project study area is within the Oceanside Subarea Plan, a draft plan used as a guidance document for projects in the City of Oceanside.

The proposed project is consistent with the requirements of the draft Oceanside Subarea Plan. Specifically, as required in Section 5.3.4 of the Oceanside Subarea Plan, the project will mitigate for impacts to special-status biological resources within the Off-site Mitigation Zone with mitigation within the WCPZ (Wildlife Corridor Planning Zone) or pre-approved Mitigation Areas (City of Oceanside 2010). The proposed project will directly impact ~~0.420~~^{0.65} acre of vegetation communities that would require mitigation under the plan. These vegetation communities do not function as a habitat corridor and have little habitat value for wildlife due to their isolation from a larger habitat corridor and small patch size. Therefore, mitigation occurring within the riparian corridor of the San Luis Rey River would provide preservation of biologically superior habitat, as well as fulfilling the requirements of the Oceanside Subarea Plan for habitat in the Off-Site Mitigation Zone.

Although impacts will occur within the buffer of the San Luis Rey River proposed by the Oceanside Subarea Plan, impacts will occur primarily within agricultural land (~~0.580~~^{0.55} acre), developed land (~~0.361~~^{0.52} acre), and disturbed habitat (~~0.310~~^{0.71} acre). The remaining impacts are to 0.15 acre of mulefat scrub, ~~0.020~~^{0.07} acre of non-vegetated channel, 0.07 acre of disturbed wetlands, and 0.02 acre of southern arroyo willow riparian forest. Impacts within the buffer are required for improvements to North River Farms Road and for off-site storm drain easements and

Biological Resources Technical Report for the North River Farms Project

outfalls to the San Luis Rey River, which are allowable uses within the 100-foot conservation buffer. These improvements are required to support the proposed project and do not fall under one of the three prohibited uses within the buffer (See Section 1.2.3). Because the proposed project would mitigate these direct impacts, the proposed project would not result in a loss of vegetation that is regionally significant; therefore, it would not contribute to a cumulative impact.

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

Biological Resources Technical Report for the North River Farms Project

INTENTIONALLY LEFT BLANK

Biological Resources Technical Report for the North River Farms Project

6 SIGNIFICANT IMPACTS

The purpose of this section is to identify the significant direct, indirect, and cumulative impacts of the project.

6.1 Explanation of Findings of Significance

Impacts to sensitive habitats, special-status plants, and special-status wildlife species must be quantified and analyzed to determine whether such impacts are significant under the California Environmental Quality Act (CEQA). CEQA Guidelines section 15064(b) states that an ironclad definition of “significant” effect is not possible because the significance of an activity may vary with the setting. Appendix G of the Guidelines, however, does provide “examples of consequences which may be deemed to be a significant effect on the environment” (Guidelines section 15064[e]). These effects include substantial effects on rare or endangered species of animal or plant or the habitat of the species. Guidelines section 15065(a) is also helpful in defining whether a project may have “a significant effect on the environment.” Under that section, a proposed project may have a significant effect on the environment if the project has the potential to: (1) substantially degrade the quality of the environment; (2) substantially reduce the habitat of a fish or wildlife species; (3) cause a fish or wildlife population to drop below self-sustaining levels; (4) threaten to eliminate a plant or animal community; (5) reduce the number or restrict the range of a rare or endangered plant or animal; or (6) eliminate important examples of the major period of California history or prehistory.

The evaluation of whether or not an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to, or result in, permanent loss of an important resource, such as a population of a rare plant or animal. Impacts may be important locally because they result in an adverse alteration of existing site conditions, but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact is the primary determinant of whether or not that impact can be mitigated to a level below significant.

6.2 Vegetation Communities and Jurisdictional Resources

Impacts to native upland vegetation and riparian/wetland habitats are considered significant under the Oceanside Subarea Plan and require mitigation. Vegetation communities considered sensitive are those listed in Habitat Groups A through E (City of Oceanside 2010). Direct impacts to 0.02 acre of southern arroyo willow riparian forest, 0.15 acre of mulefat scrub, 0.180.42 acre of non-vegetated channel, and 0.07 acre of disturbed wetland, which are all in

Biological Resources Technical Report for the North River Farms Project

Habitat Group A of the Oceanside Subarea Plan, would be considered significant absent mitigation (Impact BIO-1). Implementation of Mitigation Measure 1 will reduce to this impact to a less than significant level. Impacts to disturbed habitat, urban/developed land, row crops, non-native woodland, and eucalyptus woodland are not considered significant because these land covers are not considered special status.

As described in Section 5.2.1, there are also short- and long-term indirect impacts to vegetation communities and jurisdictional resources. All project grading will be subject to the implementation of BMPs and typical restrictions and requirements that address dust control, erosion, and runoff, including the federal Clean Water Act and National Pollution Discharge Elimination System. Indirect impacts to native vegetation communities would be reduced to less than significant through minimization measures 1, 2, 4, 5, 7, and 8, which would keep all work within the limits of construction, limit fugitive dust, provide a biological monitor, landscaping with non-invasive species, and restricted use of irrigation to reduce pests such as Argentine ants (*Iridomyrmex humil*). Therefore, given these mitigation and minimization measures, short- and long-term indirect impacts to vegetation communities and jurisdictional resources would be less than significant.

6.3 Impacts to Regional Resource Planning

As discussed in Section 5.3, there will be 1.503-08 acres of impacts within the 100-foot buffer of the San Luis Rey River resulting from improvements to North River Farms Road, roadway network improvements at Wilshire Road and Douglas Avenue and for off-site storm facilities. The impacts within the 100-foot conservation buffer are minor and would not result in additional impacts with regard to alteration to drainage patterns, the rate/volume of storm water runoff, storm water quality, and non-storm water discharges into the San Luis Rey River. Impacts occur along the existing road and within small off-site areas and are not one of the three prohibited uses within the buffer. In addition, although there are minor impacts within the buffer, the buffer is greater than 100 feet along most of the project area so altogether is providing habitat protection. Of the 1.503-08 acres of impacts within the 100-foot buffer, 0.580-55 acre of existing agriculture and the existing road and adjacent disturbed habitat (0.672-23 acre) will remain. However, impacts to 0.260-34 acre of native habitat within the 100-foot buffer of the San Luis Rey River (Impact BIO-2) would be significant absent mitigation outlined in Mitigation Measure 2. In accordance with the City of Oceanside Subarea Plan (City of Oceanside 2010), the slope along the road in the western portion of the site where minor impacts would occur to native habitats within the 100-foot buffer of the San Luis Rey River will be revegetated with native habitat. In addition, the buffer will be fully fenced to preclude trespass. This impact includes 0.07 acre of disturbed wetland, 0.15 acre of mulefat scrub, 0.020-07 acre of non-vegetated channel, and 0.02 acre of southern arroyo willow riparian forest. These impacts are also included in the direct impacts discussion in Section 6.2 and

Biological Resources Technical Report for the North River Farms Project

Impact BIO-1. The project site does not aid in the movement of wildlife species because of its close proximity to other disturbed and developed sites. Therefore, wildlife crossing improvements would not be necessary and increased wildlife mortality from traffic is not expected.

6.4 Special-Status Plants

No special-status plants were detected in the project site. In addition, no special-status plant species are expected to have high or moderate potential to occur. Indirect impacts to special-status plants would be reduced to less than significant through minimization measures 1, 2, 4, 5, 7, and 8, which would keep all work within the limits of construction, limit fugitive dust, provide a biological monitor, landscaping with non-invasive species, and restricted use of irrigation to reduce pests such as Argentine ants. Therefore, direct and indirect impacts to special-status plants are not anticipated.

6.5 Special-Status Wildlife Species

No special-status wildlife species were detected in the project site. Wildlife species with a moderate or higher potential to occur as outlined in Appendix D include pallid bat and western mastiff bat (no roosting habitat for either species). In addition, northern harrier, yellow-breasted chat, yellow warbler, Cooper's hawk, Swainson's hawk, and white-tailed kite may forage on site, but are not expected, or have a low potential, to nest on site. Because the bird and bat species are highly mobile, it is unlikely that the proposed project would result in the loss of individual adult special-status bird and bat species; therefore, direct impacts to special-status bird and bat species would be less than significant.

Loss of suitable habitat for foraging special-status wildlife species is limited given that the majority of impacts are to extensive row crop agriculture (159 acres or 95%), which does not provide native, natural foraging habitat for special-status wildlife species. The adjacent habitat, offsite, within the San Luis Rey River will remain for use by wildlife for foraging. Therefore, direct impacts to suitable habitat for foraging wildlife species is less than significant.

Construction activities could result in the loss of nests, eggs, and fledglings of nesting birds protected under the Fish and Game Code Section 3503 if vegetation clearing and ground-disturbing activities occur during the nesting season (February 15 through August 31 for most species, January 15 through August 31 for raptors). In addition, nesting birds can be affected by short-term construction-related noise, which can result in the disruption of foraging, nesting, and reproductive activities. Although the areas adjacent to the project site, or left intact on the project site following implementation of the project, support very limited suitable vegetation for bird nesting, the ornamental trees surrounding the project site may support nesting habitat for raptors. Indirect impacts from construction-related noise may occur to nesting birds protected under

Biological Resources Technical Report for the North River Farms Project

Section 3503 of the Fish and Game Code and the City of Oceanside Subarea Plan if construction occurs during the breeding season. These direct and indirect impacts would be significant absent mitigation. Implementation of Minimization Measure 3 will reduce to this impact to a less than significant level.

Wildlife may be indirectly affected in the short-term and long-term by noise and lighting, which can disrupt normal activities and subject wildlife to higher predation risks. Also, adverse edge effects can cause degradation of habitat quality through the invasion of pest species. However, Indirect impacts to wildlife would be reduced to less than significant by implementing Minimization Measures 1 through 8, which would keep all work within the limits of construction, limit fugitive dust, apply buffers for nesting birds, provide a biological monitor, limit lighting during nighttime work, landscaping with non-invasive species, and restricted use of irrigation to reduce pests such as Argentine ants.

Biological Resources Technical Report for the North River Farms Project

7 MITIGATION AND MINIMIZATION MEASURES

Impact BIO-1

Impacts to Vegetation Communities and Jurisdictional Resources

Mitigation Measure 1

Impacts to 0.02 acre of southern arroyo willow riparian forest, 0.15 acre of mulefat scrub, ~~0.180.42~~ acre of non-vegetated channel, and 0.07 acre of disturbed wetland will be mitigated through the purchase of ~~0.610.85~~ acre of riparian habitat located within the San Luis Rey Mitigation Bank (also known as the Singh Property) located on the San Luis Rey River north of State Route 76 and south of North River Road in the City of Oceanside, San Diego County, California. This mitigation bank provides both establishment (creation) and enhancement mitigation credits.

Mitigation is provided in accordance with the mitigation ratios provided in Table 5-2 of the Oceanside Subarea Plan. Impacts to riparian forest within the Agricultural Exclusion Zone require a 3:1 ratio. Therefore, impacts to 0.02 acre of southern arroyo willow riparian forest require 0.06 acre of mitigation. Impacts to riparian scrub within the Agricultural Exclusion Zone require a 2:1 ratio. Therefore, impacts to 0.15 acre of mulefat scrub require 0.30 acre of mitigation. Impacts to natural flood channels and disturbed wetlands within the Agricultural Exclusion Zone require a 1:1 ratio. Therefore, impacts to ~~0.180.42~~ acre of non-vegetated channel and 0.07 acre of disturbed wetland require ~~0.250.49~~ acre of mitigation. In total, ~~0.610.85~~ acre of mitigation will be provided.

Habitat preservation within the San Luis Rey River would provide for both increased wildlife habitat and wetlands functions of the area. Preserving additional acreage in the San Luis Rey River would increase the overall function and value of this significant North County wildlife corridor. This mitigation bank is currently occupied by a number of federal and state listed wildlife species and is located within a wildlife corridor. The functions and values of this mitigation bank are very high and mitigating by purchasing credits in this bank provides for increased value of the bank with management and monitoring of the habitat.

Biological Resources Technical Report for the North River Farms Project

Impact BIO-2

Impacts to the 100-ft Buffer of the San Luis Rey River

Mitigation Measure 2

In accordance with the City of Oceanside Subarea Plan (City of Oceanside 2010), the slope along the road in the western portion of the site where minor impacts would occur to native habitats within the 100-foot buffer of the San Luis Rey River will be revegetated with native habitat. In addition, the buffer will be fully fenced to preclude trespass.

The following minimization measures are taken directly from the City of Oceanside Subarea Plan, Section 5.2.8 (City of Oceanside 2010).

Minimization Measure 1

Temporary Fencing. The project applicant shall temporarily fence (with silt barriers) the limits of project impacts (including construction staging areas and access routes) to prevent additional habitat impacts and prevent the spread of silt from the construction zone into adjacent native habitats to be preserved. Fencing shall be installed in a manner that does not impact habitats to be preserved. If work occurs beyond the fenced or demarcated limits of impact, all work shall cease until the problem has been remedied to the satisfaction of the Wildlife Agencies. Any riparian/wetland or upland habitat impacts that occur beyond the approved fenced shall be mitigated at a minimum 5:1 ratio. Temporary construction fencing shall be removed upon project completion.

Minimization Measure 2

Fugitive Dust. Impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures.

Minimization Measure 3

Migratory Bird and Raptor Nest Buffers. The project applicant shall develop an educational pamphlet (in English and Spanish) for the identification of raptor nests and to guide tree pruning activities in suburban areas during the breeding season. Landscaping companies and tree trimming services that have projects in the City shall be required to use the pamphlet to educate their employees on the recognition of raptor nest trees. Trimming of trees containing raptor or migrating bird nests shall be prohibited during the raptor breeding season (January 15 to August 31). Human disturbance shall be restricted around documented nesting habitat during the breeding season based on the following: To avoid any direct and

Biological Resources Technical Report for the North River Farms Project

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

Implementation of this mitigation measure will reduce potential impacts to nesting birds to less than significant because they will avoid indirect impacts to individuals during the nesting season, including nests, eggs, nestlings, and fledglings, and it will allow the birds to successfully reproduce and rear young.

Minimization Measure 4 **Biologist.** A monitoring biologist shall be onsite during: a) initial clearing and grubbing of all native habitats; and b) project construction within 500 feet of preserved habitat to ensure compliance with all conservation measures. The biologist must be knowledgeable of the covered species biology and ecology. The biological monitor should flush wildlife out of habitat areas before

Biological Resources Technical Report for the North River Farms Project

they are cleared. The biological monitor shall prepare periodic construction monitoring reports and a post-construction report to document compliance.

- Minimization Measure 5 Landscaping.** The applicant shall ensure that development landscaping adjacent to on- or off-site habitat does not include exotic plant species that may be invasive to native habitats. Exotic plant species not to be used include any species listed on the California Invasive Plant Council's (Cal-IPC) "Invasive Plant Inventory" List. This list includes such species as pepper trees, pampas grass, fountain grass, ice plant, myoporum, black locust, capeweed, tree of heaven, periwinkle, sweet alyssum, English ivy, French broom, Scotch broom, and Spanish broom. A copy of the complete list can be obtained from Cal-IPC's web site or other similar sources that may evolve over the life of this plan. In addition, landscaping should not use plants that require intensive irrigation, fertilizers, or pesticides adjacent to the Preserve and water runoff from landscaped areas should be directed away from the biological conservation easement area and contained and/or treated within the development footprint. The applicant shall ensure that development lighting adjacent to all on- or offsite habitat shall be directed away from and/or shielded so as not to illuminate native habitats.
- Minimization Measure 6 Nighttime Work.** If night work is necessary, night lighting shall be of the lowest illumination necessary for human safety, selectively placed, shielded and directed away from natural habitats.
- Minimization Measure 7 Pest Species.** Any planting stock to be brought onto the project site for landscape or habitat creation/restoration/enhancement shall be first inspected by a qualified pest inspector to ensure it is free of pest species that could invade natural areas, including but not limited to, Argentine ants (*Iridomyrmex humil*), fire ants (*Solenopsis invicta*), and other insect pests. Any planting stock found to be infested with such pests shall not be allowed on the project site or within 300 feet of natural habitats unless documentation is provided to the Agencies that these pests already occur in natural areas around the project site. The stock shall be quarantined, treated, or disposed of according to best management principles by qualified experts in a manner that

Biological Resources Technical Report for the North River Farms Project

precludes invasions into natural habitats. The applicant shall ensure that all temporary irrigation will be for the shortest duration possible, and that no permanent irrigation will be used, for landscape or habitat creation/restoration/enhancement.

Minimization Measure 8 Construction Conditions. The applicant shall ensure that the following conditions are implemented during project construction:

- a. Employees shall strictly limit their activities, vehicles, equipment, and construction materials to the fenced project footprint;
- b. To avoid attracting predators of covered species, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site;
- c. Pets of project personnel shall not be allowed on the project site;
- d. Disposal or temporary placement of excess fill, brush or other debris shall not be allowed in waters of the United States or their banks;
- e. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities shall occur in designated areas outside of waters of the United States within the fenced project impact limits. These designated areas shall be located in previously compacted and disturbed areas to the maximum extent practicable in such a manner as to prevent any runoff from entering waters of the United States, and shall be shown on the construction plans. Fueling of equipment shall take place within existing paved areas greater than 100 feet from waters of the United States. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary. “No-fueling zones” shall be designated on construction plans.

Biological Resources Technical Report for the North River Farms Project

INTENTIONALLY LEFT BLANK

Biological Resources Technical Report for the North River Farms Project

8 REFERENCES

- ACOE (U.S. Army Corps of Engineers). 1987. *Corps of Engineers Wetlands Delineation Manual*. Environmental Laboratory, Wetlands Research Program Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January 1987.
- ACOE. 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. Environmental Laboratory, ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center. September 2008. Accessed September 1, 2010. http://www.usace.army.mil/CECW/Pages/reg_supp.aspx.
- ACOE. 2008b. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual*. ERDC/CRREL TR-08-12. Prepared by R.W. Lichvar and S.M. McColley, ACOE Research and Development Center, Cold Regions Research and Engineering Laboratory. August 2008. http://www.spk.usace.army.mil/Portals/12/documents/regulatory/pdf/Ordinary_High_Watermark_Manual_Aug_2008.pdf.
- AOU (American Ornithologists' Union). 2016. "Check-List of North American Birds: List of the 2,127 Bird Species Known from the A.O.U. Check-List Area." Accessed October 14, 2016. <http://checklist.aou.org/>.
- Beier, P., and S. Loe. 1992. "A Checklist for Evaluating Impacts to Wildlife Movement Corridors." *Wildlife Society Bulletin* 20:434–440.
- Bennett, A.F. 2003. *Linkages in the Landscape; The Role of Corridors and Connectivity in Wildlife Conservation*. IUCN Forest Conservation Programme. Conserving Forest Ecosystems Series, no. 1. Gland, Switzerland: IUCN. Accessed August 22, 2011. <http://app.iucn.org/dbtw-wpd/edocs/FR-021.pdf>.
- CDFG (California Department of Fish and Game). 2010. *List of Vegetation Alliances and Associations*. Vegetation Classification and Mapping Program. September 2010. Accessed February 13, 2017. <https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/List>.
- CDFW (California Department of Fish and Wildlife). 2017a. California Natural Diversity Database (CNDDDB) *RareFind*. Version 3.1.0. Accessed February 13, 2017.

Biological Resources Technical Report for the North River Farms Project

- CDFW. 2017b. *Special Vascular Plants, Bryophytes, and Lichens List*. California Natural Diversity Database. CDFW, Biogeographic Data Branch. January 2017. Accessed February 13, 2017. <https://www.wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.
- CDFW. 2017c. *Special Animals List*. California Natural Diversity Database. CDFW, Biogeographic Data Branch. January 2017. <https://www.wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.
- City of Oceanside, Planning Department. 2010. *Final Oceanside Subarea Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP)*. <http://www.ci.oceanside.ca.us/gov/dev/planning/subarea.asp>.
- CNPS (California Native Plant Society). 2017. *Inventory of Rare and Endangered Plants*. Online edition. Version 8-02. Sacramento, California: CNPS. Accessed February 13, 2017. <http://www.rareplants.cnps.org/>.
- Crother, B.I. 2012. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding. 7th ed. Herpetological Circular No. 39. Ed. J.J. Moriarty. Shoreview, Minnesota: Society for the Study of Amphibians and Reptiles.
- Haddad, N.M. 1999. "Corridor Use Predicted from Behaviors at Habitat Boundaries." *American Naturalist* 153:215–227.
- Haddad, N.M., and J.J. Tewksbury. 2005. "Impacts of Corridors on Populations and Communities." In *Connectivity Conservation*, edited by K.R. Crooks and M.A. Sanjayan, 390–415. Island Press.
- Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Nongame-Heritage Program, California Department of Fish and Game. October 1986.
- Jepson Flora Project. 2016. *Jepson eFlora*. Berkeley, California: University of California. Accessed October 18, 2016. http://ucjeps.berkeley.edu/cgi-bin/get_JM_name_data.pl
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. "The National Wetland Plant List: 2016 wetland ratings." *Phytoneuron* 2016-30: 1–17. Published 28 April 2016. ISSN 2153 733X

Biological Resources Technical Report for the North River Farms Project

- Meese, R.J., F.M. Shilling, and J.F. Quinn. 2007. *Wildlife Crossings Assessment and Mitigation Manual*. U.C. Davis and California Department of Transportation.
- NABA (North American Butterfly Association). 2001. "Checklist of North American Butterflies Occurring North of Mexico." Adapted from North American Butterfly Association (NABA) Checklist & English Names of North American Butterflies, eds. B. Cassie, J. Glassberg, A. Swengel, and G. Tudor. 2nd ed. Morristown, New Jersey: NABA. Accessed October 14, 2016. <http://www.naba.org/pubs/enames2.html>
- Nationwide (Nationwide Environmental Title Research LLC). 2018. *Historic Aerials Website*. Accessed May 2018. <https://www.historicaerials.com/>.
- Oberbauer, T., M. Kelly, and J. Buegge. 2008. *Draft Vegetation Communities of San Diego County*. March 2008.
- Rosenberg, D.K., B.R. Noon, and E.C. Meslow. 1995. "Towards a Definition of Biological Corridor." In *Integrating People and Wildlife for a Sustainable Future*, edited by J.A. Bissonette and P.R. Krausman, 436–439. Bethesda, Maryland: Wildlife Society.
- Rosenberg, D.K., B.R. Noon, and E.C. Meslow. 1997. "Biological Corridors: Form, Function, and Efficacy." *BioScience* 47:677–687.
- SANDAG (San Diego Association of Governments). 2003. *Final MHCP Plan*. Vol. 1. Prepared for the Multiple Habitat Conservation Program. Administered by SANDAG. March 2003.
- SDNHM (San Diego Natural History Museum). 2002. "Butterflies of San Diego County. Revised September 2002." Accessed October 14, 2016. <http://www.sdnhm.org/archive/research/entomology/sdbutterflies.html>.
- Soulé, M.E., and M.E. Gilpin. 1991. "The Theory of Wildlife Corridor Capability." In *Nature Conservation 2: The Role of Corridors*, edited by D.A. Saunders and R.J. Hobbs, 3–8. Chipping Norton, Australia: Surrey Beatty and Sons.
- USDA (U.S. Department of Agriculture). 1994. "Hydric Soils." Natural Resources Conservation Service. <http://soils.usda.gov/use/hydric/intro.html>.
- USDA and NRCS (Natural Resources Conservation Service) 2010. *Field Indicators of Hydric Soils in the United States. A Guide for Identifying and Delineating Hydric Soils*. Version 7.0. 2010. ftp://ftp-fc.sc.egov.usda.gov/NSSC/Hydric_Soils/FieldIndicators_v7.pdf

Biological Resources Technical Report for the North River Farms Project

- USDA. 2016a. Web Soil Survey. USDA Natural Resources Conservation Service, Soil Survey Staff. Accessed February 13, 2017. <http://websoilsurvey.nrcs.usda.gov/>.
- USDA. 2016b. Official Soil Series Descriptions. USDA Natural Resources Conservation Service, Soil Survey Staff. Accessed February 13, 2017. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/home/?cid=nrcs142p2_053587.
- USFWS. 2008. *Birds of Conservation Concern 2008*. Arlington, Virginia: USFWS, Division of Migratory Bird Management. December 2008. Accessed December 2012. <http://www.fws.gov/migratorybirds>.
- USFWS. 2016a. "National Wetlands Inventory." U.S. Fish and Wildlife Service. Accessed February 13, 2017. <http://www.fws.gov/wetlands/Data/Mapper.html>.
- USFWS. 2016b. "Critical Habitat and Occurrence Data" [map]. Accessed February 13, 2017. <http://www.fws.gov/data>.
- Western Regional Climate Center. 2016. "Historical Climate Information." Accessed February 13, 2017: <http://www.wrcc.dri.edu/index.html>.
- Wilson, D.E. and D.M. Reeder, eds. 2005. *Mammal Species of the World: A Taxonomic and Geographic Reference*, 3rd ed. Baltimore, Maryland: Johns Hopkins University Press.

APPENDIX A
Plant Compendium

APPENDIX A

Plant Compendium

VASCULAR SPECIES

MONOCOTS

ARECACEAE—PALM FAMILY

- * *Washingtonia robusta*—Washington fan palm

EUDICOTS

ADOXACEAE—MUSKROOT FAMILY

- Sambucus nigra* ssp. *caerulea*—blue elderberry

ANACARDIACEAE—SUMAC OR CASHEW FAMILY

- * *Schinus molle*—Peruvian peppertree
- * *Schinus terebinthifolius*—Brazilian peppertree

APIACEAE—CARROT FAMILY

- * *Conium maculatum*—poison hemlock
- * *Foeniculum vulgare*—fennel

ASTERACEAE—SUNFLOWER FAMILY

- Baccharis sarothroides*—desertbroom
- Heterotheca grandiflora*—telegraphweed
- Pseudognaphalium californicum*—ladies' tobacco
- Baccharis salicifolia*—mulefat

BRASSICACEAE—MUSTARD FAMILY

- * *Brassica nigra*—black mustard
- * *Hirschfeldia incana*—shortpod mustard
- * *Raphanus sativus*—cultivated radish

CACTACEAE—CACTUS FAMILY

- Opuntia littoralis*—coast prickly pear

CHENOPODIACEAE—GOOSEFOOT FAMILY

- * *Chenopodium album*—lambsquarters
- * *Salsola tragus*—prickly Russian thistle

EUPHORBIACEAE—SPURGE FAMILY

- * *Ricinus communis*—castorbean

APPENDIX A (Continued)

FABACEAE—LEGUME FAMILY

- Acmispon glaber* var. *glaber*—common deerweed
* *Acacia longifolia*—Sydney golden wattle

GERANIACEAE—GERANIUM FAMILY

- * *Erodium cicutarium*—redstem stork's bill
* *Erodium moschatum*—musky stork's bill

POLYGONACEAE—BUCKWHEAT FAMILY

- * *Rumex crispus*—curly dock

SALICACEAE—WILLOW FAMILY

- Salix lasiolepis*—arroyo willow
Salix gooddingii—black willow

SOLANACEAE—NIGHTSHADE FAMILY

- Datura wrightii*—sacred thorn-apple

TAMARICACEAE—TAMARISK FAMILY

- * *Tamarix ramosissima*—saltcedar

URTICACEAE—NETTLE FAMILY

- Urtica dioica* ssp. *holosericea*—stinging nettle

* signifies introduced (non-native) species

APPENDIX B
Wildlife Compendium

APPENDIX B
Wildlife Compendium

BIRD

BUSHTITS

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

EMBERIZINES

EMBERIZIDAE—EMBERIZIDS

Melospiza crissalis—California towhee

FINCHES

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch

HAWKS

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Buteo jamaicensis—red-tailed hawk

Buteo lineatus—red-shouldered hawk

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird

JAYS, MAGPIES AND CROWS

CORVIDAE—CROWS AND JAYS

Corvus brachyrhynchos—American crow

NEW WORLD VULTURES

CATHARTIDAE—CARDINALS AND ALLIES

Cathartes aura—turkey vulture

PIGEONS AND DOVES

COLUMBIDAE—PIGEONS AND DOVES

Zenaidura macroura—mourning dove

APPENDIX B (Continued)

INVERTEBRATE

BUTTERFLIES

PIERIDAE—WHITES AND SULFURS

Pontia protodice—checkered white

MAMMAL

CANIDS

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

SQUIRRELS

SCIURIDAE—SQUIRRELS

Spermophilus (Otospermophilus) beecheyi—California ground squirrel

REPTILE

LIZARDS

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard

APPENDIX C

*Special-Status Plant Species Potential
to Occur on the Project Site*

APPENDIX C

Special-Status Plant Species Potential to Occur in the Proposed Project Area

Table C-1
Special-Status Plant Species Potential to Occur in the Project Area

Scientific Name	Common Name	Status Federal/State/CRPR/Draft San Diego MHCP Oceanside Subarea Plan	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation (feet)	Status On Site or Potential to Occur
<i>Abronia maritima</i>	red sand-verbena	None/None/4.2/None	Coastal dunes/perennial herb/Feb–Nov/0–328	Not expected to occur. No suitable habitat present.
<i>Abronia villosa</i> var. <i>aurita</i>	chaparral sand-verbena	None/None/1B.1/None	Chaparral, coastal scrub, desert dunes; sandy/annual herb/Jan–Sep/246–5249	Not expected to occur. No suitable habitat present. This species has been recorded in the project vicinity. The closest known CNDDDB occurrence is 5.1 miles northwest of the project area on Camp Pendleton (CDFW 2018).
<i>Acanthomintha ilicifolia</i>	San Diego thorn-mint	FT/CE/1B.1/Covered	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay, openings/annual herb/Apr–June/33–3150	Not expected to occur. No suitable habitat present.
<i>Acmispon prostratus</i>	Nuttall's acmispon	None/None/1B.1/None	Coastal dunes, coastal scrub (sandy)/annual herb/Mar–June (July)/0–33	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Adolphia californica</i>	California adolphia	None/None/2B.1/None	Chaparral, coastal scrub, valley and foothill grassland; clay/perennial deciduous shrub/Dec–May/148–2428	Not expected to occur. No suitable habitat present.
<i>Ambrosia pumila</i>	San Diego ambrosia	FE/None/1B.1/ Covered	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; sandy loam or clay, often in disturbed areas, sometimes alkaline/perennial rhizomatous herb/Apr–Oct/66–1362	Not expected to occur. No suitable habitat present.
<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>	Del Mar manzanita	FE/None/1B.1/ None	Chaparral (maritime, sandy)/perennial evergreen shrub/Dec–June/0–1198	Not expected to occur. No suitable habitat present.

APPENDIX C (Continued)

**Table C-1
Special-Status Plant Species Potential to Occur in the Project Area**

Scientific Name	Common Name	Status Federal/State/CRPR/Draft San Diego MHCP Oceanside Subarea Plan	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation (feet)	Status On Site or Potential to Occur
<i>Arctostaphylos rainbowensis</i>	Rainbow manzanita	None/None/1B.1/None	Chaparral/perennial evergreen shrub/Dec–Mar/673–2198	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present. This species has been recorded in the project vicinity. The closest known CNDDDB occurrence is 7.1 miles northwest of the project area northwest of O'Neil Lake on Camp Pendleton (CDFW 2018).
<i>Artemisia palmeri</i>	San Diego sagewort	None/None/4.2/None	Chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland; sandy, mesic/perennial deciduous shrub/(Feb) May–Sep/49–3002	Not expected to occur. Riparian habitat is dense with little understory present. Perennial shrub would have been observed during survey.
<i>Asplenium vesperinum</i>	western spleenwort	None/None/4.2/None	Chaparral, cismontane woodland, coastal scrub; rocky/perennial rhizomatous herb/Feb–June/591–3281	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Astragalus pachypus</i> var. <i>jaegeri</i>	Jaeger's bush milk-vetch	None/None/1B.1/None	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; sandy or rocky/perennial shrub/Dec–June/1198–3002	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Astragalus tener</i> var. <i>titi</i>	coastal dunes milk-vetch	FE/CE/1B.1/None	Coastal bluff scrub (sandy), coastal dunes, coastal prairie (mesic); often vernal mesic areas/annual herb/Mar–May/3–164	Not expected to occur. No suitable habitat present.
<i>Atriplex coulteri</i>	Coulter's saltbush	None/None/1B.2/None	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland; alkaline or clay/perennial herb/Mar–Oct/10–1509	Not expected to occur. No suitable habitat present.

APPENDIX C (Continued)

**Table C-1
Special-Status Plant Species Potential to Occur in the Project Area**

Scientific Name	Common Name	Status Federal/State/CRPR/Draft San Diego MHCP Oceanside Subarea Plan	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation (feet)	Status On Site or Potential to Occur
<i>Atriplex pacifica</i>	South Coast saltscale	None/None/1B.2/None	Coastal bluff scrub, coastal dunes, coastal scrub, playas/annual herb/Mar–Oct/0–459	Not expected to occur. No suitable habitat present. This species has been recorded in the project vicinity. The closest known CNDDDB occurrence is 3.5 miles northwest of the project area on Santa Margarita Ranch (CDFW 2018).
<i>Baccharis vanessae</i>	Encinitas baccharis	FT/CE/1B.1/ None	Chaparral (maritime), cismontane woodland; sandstone/perennial deciduous shrub/Aug–Nov/197–2362	Not expected to occur. No suitable habitat present.
<i>Bloomeria clevelandii</i>	San Diego goldenstar	None/None/1B.1/None	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay/perennial bulbiferous herb/Apr–May/164–1526	Not expected to occur. No suitable habitat present.
<i>Brodiaea filifolia</i>	thread-leaved brodiaea	FT/CE/1B.1/ Covered	Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools; often clay/perennial bulbiferous herb/Mar–June/82–3675	Not expected to occur. No suitable habitat present. This species has been recorded in the project vicinity. The closest known CNDDDB occurrence is 2.2 miles northwest of the project area between Windmill Canyon and Pilgrim Creek on Camp Pendleton (CDFW 2018).
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea	None/None/1B.1/None	Closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; mesic, clay, sometimes serpentinite/perennial bulbiferous herb/May–July/98–5551	Not expected to occur. No suitable habitat present.
<i>Brodiaea santarosae</i>	Santa Rosa Basalt brodiaea	None/None/1B.2/None	Valley and foothill grassland; basaltic/perennial bulbiferous herb/May–June/1854–3428	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.

APPENDIX C (Continued)

**Table C-1
Special-Status Plant Species Potential to Occur in the Project Area**

Scientific Name	Common Name	Status Federal/State/CRPR/Draft San Diego MHCP Oceanside Subarea Plan	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation (feet)	Status On Site or Potential to Occur
<i>Camissoniopsis lewisii</i>	Lewis' evening-primrose	None/None/3/None	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy or clay/annual herb/Mar–May (June)/0–984	Not expected to occur. No suitable habitat present. This species has been recorded in the project vicinity. The closest known occurrence is 2.3 miles southwest of the project area south of San Luis Rey River (CNPS 2018).
<i>Caulanthus simulans</i>	Payson's jewelflower	None/None/4.2/None	Chaparral, coastal scrub; sandy, granitic/annual herb/(Feb) Mar–May (June)/295–7218	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Ceanothus verrucosus</i>	wart-stemmed ceanothus	None/None/2B.2/ None	Chaparral/perennial evergreen shrub/Dec–May/3–1247	Not expected to occur. No suitable habitat present.
<i>Centromadia parryi</i> ssp. <i>australis</i>	southern tarplant	None/None/1B.1/None	Marshes and swamps (margins), valley and foothill grassland (vernally mesic), vernal pools/annual herb/May–Nov/0–1575	Not expected to occur. No suitable habitat present. This species has been recorded in the project vicinity. The closest known CNDDB occurrence is 5.3 miles northwest of the project area on the southeast bank of the Santa Margarita River (CDFW 2018).
<i>Centromadia pungens</i> ssp. <i>laevis</i>	smooth tarplant	None/None/1B.1/None	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland; alkaline/annual herb/Apr–Sep/0–2100	Not expected to occur. Limited suitable riparian habitat present and no suitable alkaline soils. This species has been recorded in the project vicinity. The closest known CNDDB occurrence is 4.4 miles west of the project area in Ysidora Basin on Camp Pendleton (CDFW 2018).
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	Orcutt's pincushion	None/None/1B.1/None	Coastal bluff scrub (sandy), coastal dunes/annual herb/Jan–Aug/0–328	Not expected to occur. No suitable habitat present. This species has been recorded in the project vicinity. The closest known CNDDB occurrence is 8.0 miles north of the project area in Fallbrook (CDFW 2018).

APPENDIX C (Continued)

**Table C-1
Special-Status Plant Species Potential to Occur in the Project Area**

Scientific Name	Common Name	Status Federal/State/CRPR/Draft San Diego MHCP Oceanside Subarea Plan	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation (feet)	Status On Site or Potential to Occur
<i>Chamaebatia australis</i>	southern mountain misery	None/None/4.2/None	Chaparral (gabbroic or metavolcanic)/perennial evergreen shrub/Nov–May/984–3346	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	long-spined spineflower	None/None/1B.2/None	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools; often clay/annual herb/Apr–July/98–5020	Not expected to occur. No suitable habitat present.
<i>Cistanthe maritima</i>	seaside cistanthe	None/None/4.2/None	Coastal bluff scrub, coastal scrub, valley and foothill grassland; sandy/annual herb/(Feb) Mar–June (Aug)/16–984	Not expected to occur. No suitable habitat present.
<i>Clinopodium chandleri</i>	San Miguel savory	None/None/1B.2/None	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland; rocky, gabbroic, or metavolcanic/perennial shrub/Mar–July/394–3527	Not expected to occur. The site is outside of the species' known elevation range and there is limited suitable riparian habitat present.
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	summer holly	None/None/1B.2/ None	Chaparral, cismontane woodland/perennial evergreen shrub/Apr–June/98–2592	Not expected to occur. No suitable habitat present.
<i>Convolvulus simulans</i>	small-flowered morning-glory	None/None/4.2/None	Chaparral (openings), coastal scrub, valley and foothill grassland; clay, serpentinite seeps/annual herb/Mar–July/98–2297	Not expected to occur. No suitable habitat present. This species has been recorded in the project vicinity. The closest known occurrence is 2.5 miles northwest of the project area on the southern slope of Camp Pendleton (CNPS 2018).
<i>Corethrogyne filaginifolia</i> var. <i>linifolia</i>	Del Mar Mesa sand aster	None/None/1B.1/ None	Coastal bluff scrub, chaparral (maritime, openings), coastal scrub; sandy/perennial herb/May–Sep/49–492	Not expected to occur. No suitable habitat present.
<i>Cryptantha wigginsii</i>	Wiggins' cryptantha	None/None/1B.2/None	Coastal scrub; often clay/annual herb/Feb–June/66–902	Not expected to occur. No suitable habitat present.

APPENDIX C (Continued)

**Table C-1
Special-Status Plant Species Potential to Occur in the Project Area**

Scientific Name	Common Name	Status Federal/State/CRPR/Draft San Diego MHCP Oceanside Subarea Plan	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation (feet)	Status On Site or Potential to Occur
<i>Deinandra paniculata</i>	paniculate tarplant	None/None/4.2/None	Coastal scrub, valley and foothill grassland, vernal pools; usually vernal mesic, sometimes sandy/annual herb/Apr–Nov/82–3084	Not expected to occur. No suitable habitat present due to the active agricultural land uses.
<i>Dichondra occidentalis</i>	western dichondra	None/None/4.2/None	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/perennial rhizomatous herb/(Jan) Mar–July/164–1640	Not expected to occur. No suitable habitat present. This species has been recorded in the project vicinity. The closest known occurrence is 4.5 miles west of the project area in the southern portion of Camp Pendleton (CNPS 2018).
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	None/None/1B.1/ None	Coastal bluff scrub, chaparral, coastal scrub, valley and foothill grassland; rocky, often clay or serpentinite/perennial herb/Apr–June/16–1476	Not expected to occur. No suitable habitat present.
<i>Dudleya multicaulis</i>	many-stemmed dudleya	None/None/1B.2/None	Chaparral, coastal scrub, valley and foothill grassland; often clay/perennial herb/Apr–July/49–2592	Not expected to occur. No suitable habitat present. This species has been recorded in the project vicinity. The closest known CNDDDB occurrence is 3.7 miles northwest of the project area south of Rattlesnake Canyon on Camp Pendleton (CDFW 2018).
<i>Dudleya variegata</i>	variegated dudleya	None/None/1B.2/None	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools; clay/perennial herb/Apr–June/10–1903	Not expected to occur. No suitable habitat present.
<i>Dudleya viscida</i>	sticky dudleya	None/None/1B.2/ Covered	Coastal bluff scrub, chaparral, cismontane woodland, coastal scrub; rocky/perennial herb/May–June/33–1804	Not expected to occur. No suitable habitat present. This species has been recorded in the project vicinity.

APPENDIX C (Continued)

**Table C-1
Special-Status Plant Species Potential to Occur in the Project Area**

Scientific Name	Common Name	Status Federal/State/CRPR/Draft San Diego MHCP Oceanside Subarea Plan	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation (feet)	Status On Site or Potential to Occur
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button- celery	FE/CE/1B.1/ None	Coastal scrub, valley and foothill grassland, vernal pools; mesic/annual / perennial herb/Apr–June/66–2034	Not expected to occur. No suitable habitat present.
<i>Eryngium pendletonense</i>	Pendleton button- celery	None/None/1B.1/None	Coastal bluff scrub, valley and foothill grassland, vernal pools; clay, vernal mesic/perennial herb/Apr–June (July)/49– 361	Not expected to occur. No suitable habitat present. This species has been recorded in the project vicinity. The closest known occurrence is 6.0 miles west of the project area in the southern portion of Camp Pendleton (CNPS 2018).
<i>Euphorbia misera</i>	cliff spurge	None/None/2B.2/ None	Coastal bluff scrub, coastal scrub, Mojavean desert scrub; rocky/perennial shrub/Dec–Aug (Oct)/33–1640	Not expected to occur. No suitable habitat present.
<i>Ferocactus viridescens</i>	San Diego barrel cactus	None/None/2B.1/ Covered	Chaparral, coastal scrub, valley and foothill grassland, vernal pools/perennial stem succulent/May–June/10–1476	Not expected to occur. No suitable habitat present.
<i>Geothallus tuberosus</i>	Campbell's liverwort	None/None/1B.1/None	Coastal scrub (mesic), vernal pools; soil/ephemeral liverwort/N.A./33–1969	Not expected to occur. No suitable habitat present.
<i>Harpagonella palmeri</i>	Palmer's grapplinghook	None/None/4.2/None	Chaparral, coastal scrub, valley and foothill grassland; clay/annual herb/Mar–May/66– 3133	Not expected to occur. No suitable habitat present.
<i>Hazardia orcuttii</i>	Orcutt's hazardia	FC/CT/1B.1/ Covered	Chaparral (maritime), coastal scrub; often clay/perennial evergreen shrub/Aug– Oct/262–279	Not expected to occur. No suitable habitat present.
<i>Holocarpha virgata</i> ssp. <i>elongata</i>	graceful tarplant	None/None/4.2/None	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/annual herb/May–Nov/197–3609	Not expected to occur. No suitable habitat present.

APPENDIX C (Continued)

**Table C-1
Special-Status Plant Species Potential to Occur in the Project Area**

Scientific Name	Common Name	Status Federal/State/CRPR/Draft San Diego MHCP Oceanside Subarea Plan	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation (feet)	Status On Site or Potential to Occur
<i>Hordeum intercedens</i>	vernal barley	None/None/3.2/None	Coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), vernal pools/annual herb/Mar–June/16–3281	Not expected to occur. No suitable habitat or suitable alkaline soils present. This species has been recorded in the project vicinity. The closest known occurrence is 5.7 miles west of the project area near a vernal pool area above Santa Margarita River on Camp Pendleton (CNPS 2018; SDNHM 2018).
<i>Horkelia cuneata</i> var. <i>puberula</i>	mesa horkelia	None/None/1B.1/None	Chaparral (maritime), cismontane woodland, coastal scrub; sandy or gravelly/perennial herb/Feb–July (Sep)/230–2657	Not expected to occur. No suitable habitat present.
<i>Horkelia truncata</i>	Ramona horkelia	None/None/1B.3/None	Chaparral, cismontane woodland; clay, gabbroic/perennial herb/May–June/1312–4265	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Isocoma menziesii</i> var. <i>decumbens</i>	decumbent goldenbush	None/None/1B.2/None	Chaparral, coastal scrub (sandy, often in disturbed areas)/perennial shrub/Apr–Nov/33–443	Not expected to occur. No suitable habitat present.
<i>Iva hayesiana</i>	San Diego marsh-elder	None/None/2B.2/Covered	Marshes and swamps, playas/perennial herb/Apr–Oct/33–1640	Not expected to occur. No suitable habitat present.
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	southwestern spiny rush	None/None/4.2/None	Coastal dunes (mesic), meadows and seeps (alkaline seeps), marshes and swamps (coastal salt)/perennial rhizomatous herb/(Mar) May–June/10–2953	Not expected to occur. No suitable habitat present. This species has been recorded in the project vicinity. The closest known occurrence is 6.5 miles west of the project area in the southern portion of Camp Pendleton (CNPS 2018).
<i>Juncus luciensis</i>	Santa Lucia dwarf rush	None/None/1B.2/None	Chaparral, Great Basin scrub, lower montane coniferous forest, meadows and seeps, vernal pools/annual herb/Apr–July/984–6693	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.

APPENDIX C (Continued)

**Table C-1
Special-Status Plant Species Potential to Occur in the Project Area**

Scientific Name	Common Name	Status Federal/State/CRPR/Draft San Diego MHCP Oceanside Subarea Plan	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation (feet)	Status On Site or Potential to Occur
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	None/None/1B.1/None	Marshes and swamps (coastal salt), playas, vernal pools/annual herb/Feb–June/3–4003	Not expected to occur. No suitable habitat present.
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper-grass	None/None/4.3/None	Chaparral, coastal scrub/annual herb/Jan–July/3–2904	Not expected to occur. No suitable habitat present. This species has been recorded in the project vicinity. The closest known CNDDDB occurrence is 6.7 miles north of the project area west of Margarita River Valley (CDFW 2018).
<i>Leptosyne maritima</i>	sea dahlia	None/None/2B.2/None	Coastal bluff scrub, coastal scrub/perennial herb/Mar–May/16–492	Not expected to occur. No suitable habitat present.
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	ocellated Humboldt lily	None/None/4.2/None	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland; openings/perennial bulbiferous herb/Mar–July (Aug)/98–5906	Low potential to occur. Limited suitable riparian habitat present.
<i>Lycium californicum</i>	California box-thorn	None/None/4.2/None	Coastal bluff scrub, coastal scrub/perennial shrub/(Dec) Mar–Aug/16–492	Not expected to occur. No suitable habitat present.
<i>Microseris douglasii</i> ssp. <i>platycarpha</i>	small-flowered microseris	None/None/4.2/None	Cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools; clay/annual herb/Mar–May/49–3510	Not expected to occur. No suitable habitat present.
<i>Mielichhoferia shevockii</i>	Shevock's copper moss	None/None/1B.2/None	Cismontane woodland (metamorphic, rock, mesic)/moss/N.A./2461–4593	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Mimulus diffusus</i>	Palomar monkeyflower	None/None/4.3/None	Chaparral, lower montane coniferous forest; sandy or gravelly/annual herb/Apr–June/4003–6004	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.

APPENDIX C (Continued)

**Table C-1
Special-Status Plant Species Potential to Occur in the Project Area**

Scientific Name	Common Name	Status Federal/State/CRPR/Draft San Diego MHCP Oceanside Subarea Plan	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation (feet)	Status On Site or Potential to Occur
<i>Monardella hypoleuca</i> ssp. <i>intermedia</i>	intermediate monardella	None/None/1B.3/None	Chaparral, cismontane woodland, lower montane coniferous forest (sometimes); usually understory/perennial rhizomatous herb/Apr–Sep/1312–4101	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Monardella hypoleuca</i> ssp. <i>lanata</i>	felt-leaved monardella	None/None/1B.2/None	Chaparral, cismontane woodland/perennial rhizomatous herb/June–Aug/984–5167	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Myosurus minimus</i> ssp. <i>apus</i>	little mousetail	None/None/3.1/None	Valley and foothill grassland, vernal pools (alkaline)/annual herb/Mar–June/66–2100	Not expected to occur. No suitable habitat present.
<i>Nama stenocarpa</i>	mud nama	None/None/2B.2/None	Marshes and swamps (lake margins, riverbanks)/annual / perennial herb/Jan–July/16–1640	Not expected to occur. No suitable habitat present.
<i>Navarretia fossalis</i>	spreading navarretia	FT/None/1B.1/ None	Chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, vernal pools/annual herb/Apr–June/98–2149	Not expected to occur. No suitable habitat present.
<i>Nemacaulis denudata</i> var. <i>denudata</i>	coast woolly-heads	None/None/1B.2/None	Coastal dunes/annual herb/Apr–Sep/0–328	Not expected to occur. No suitable habitat present.
<i>Nemacaulis denudata</i> var. <i>gracilis</i>	slender cottonheads	None/None/2B.2/None	Coastal dunes, desert dunes, Sonoran desert scrub/annual herb/(Mar) Apr–May/-164–1312	Not expected to occur. No suitable habitat present.
<i>Nolina cismontana</i>	chaparral nolina	None/None/1B.2/None	Chaparral, coastal scrub; sandstone or gabbro/perennial evergreen shrub/(Mar) May–July/459–4183	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Pentachaeta aurea</i> ssp. <i>aurea</i>	golden-rayed pentachaeta	None/None/4.2/None	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, valley and foothill grassland/annual herb/Mar–July/262–6070	Low potential to occur. Limited suitable riparian habitat present.

APPENDIX C (Continued)

**Table C-1
Special-Status Plant Species Potential to Occur in the Project Area**

Scientific Name	Common Name	Status Federal/State/CRPR/Draft San Diego MHCP Oceanside Subarea Plan	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation (feet)	Status On Site or Potential to Occur
<i>Phacelia ramosissima</i> var. <i>australitoralis</i>	south coast branching phacelia	None/None/3.2/None	Chaparral, coastal dunes, coastal scrub, marshes and swamps (coastal salt); sandy, sometimes rocky/perennial herb/Mar–Aug/16–984	Not expected to occur. No suitable habitat present.
<i>Phacelia stellaris</i>	Brand's star phacelia	FC/None/1B.1/None	Coastal dunes, coastal scrub/annual herb/Mar–June/3–1312	Not expected to occur. No suitable habitat present.
<i>Pickeringia montana</i> var. <i>tomentosa</i>	woolly chaparral-pea	None/None/4.3/None	Chaparral; gabbroic, granitic, clay/evergreen shrub/May–Aug/0–5577	Not expected to occur. No suitable habitat present.
<i>Pinus torreyana</i> ssp. <i>torreyana</i>	Torrey pine	None/None/1B.2/ None	Closed-cone coniferous forest, chaparral; sandstone/perennial evergreen tree/N.A./246–525	Not expected to occur. No suitable habitat present.
<i>Piperia cooperi</i>	chaparral rein orchid	None/None/4.2/None	Chaparral, cismontane woodland, valley and foothill grassland/perennial herb/Mar–June/49–5200	Not expected to occur. No suitable habitat present.
<i>Polygala cornuta</i> var. <i>fishiae</i>	Fish's milkwort	None/None/4.3/None	Chaparral, cismontane woodland, riparian woodland/perennial deciduous shrub/May–Aug/328–3281	Not expected to occur. The site is outside of the species' known elevation range and there is limited suitable riparian habitat present.
<i>Pseudognaphalium leucocephalum</i>	white rabbit-tobacco	None/None/2B.2/None	Chaparral, cismontane woodland, coastal scrub, riparian woodland; sandy, gravelly/perennial herb/(July) Aug–Nov (Dec)/0–6890	Low potential to occur. Limited suitable riparian habitat present.
<i>Psilocarphus brevissimus</i> var. <i>multiflorus</i>	Delta woolly-marbles	None/None/4.2/None	Vernal pools/annual herb/May–June/33–1640	Not expected to occur. No suitable habitat present.
<i>Quercus dumosa</i>	Nuttall's scrub oak	None/None/1B.1/ Covered	Closed-cone coniferous forest, chaparral, coastal scrub; sandy, clay loam/perennial evergreen shrub/Feb–Apr (Aug)/49–1312	Not expected to occur. No suitable habitat present.

APPENDIX C (Continued)

**Table C-1
Special-Status Plant Species Potential to Occur in the Project Area**

Scientific Name	Common Name	Status Federal/State/CRPR/Draft San Diego MHCP Oceanside Subarea Plan	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation (feet)	Status On Site or Potential to Occur
<i>Quercus engelmannii</i>	Engelmann oak	None/None/4.2/ None	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland/perennial deciduous tree/Mar–June/164–4265	Not expected to occur. Limited suitable riparian habitat present. Would have been observed during survey if present.
<i>Saltugilia caruifolia</i>	caraway-leaved woodland-gilia	None/None/4.3/None	Chaparral, lower montane coniferous forest; sandy, openings/annual herb/May–Aug/2756–7546	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Selaginella cinerascens</i>	ashy spike-moss	None/None/4.1/None	Chaparral, coastal scrub/perennial rhizomatous herb/N.A./66–2100	Not expected to occur. No suitable habitat present.
<i>Senecio aphanactis</i>	chaparral ragwort	None/None/2B.2/None	Chaparral, cismontane woodland, coastal scrub; sometimes alkaline/annual herb/Jan–Apr/49–2625	Not expected to occur. No suitable habitat present.
<i>Suaeda esteroa</i>	estuary seablite	None/None/1B.2/None	Marshes and swamps (coastal salt)/perennial herb/May–Oct (Jan)/0–16	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Tetracoccus dioicus</i>	Parry's tetracoccus	None/None/1B.2/ None	Chaparral, coastal scrub/perennial deciduous shrub/Apr–May/541–3281	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present. This species has been recorded in the project vicinity. The closest known CNDDDB occurrence overlaps the project area, however the occurrence is from 1966 and most of the vicinity has been developed since the collection was made (CDFW 2018).
<i>Tortula californica</i>	California screw-moss	None/None/1B.2/None	Chenopod scrub, valley and foothill grassland; sandy, soil/moss/N.A./33–4790	Not expected to occur. No suitable habitat present.
<i>Viguiera laciniata</i>	San Diego County viguiera	None/None/4.2/None	Chaparral, coastal scrub/perennial shrub/Feb–June (Aug)/197–2461	Not expected to occur. No suitable habitat present.

APPENDIX C (Continued)

**Table C-1
Special-Status Plant Species Potential to Occur in the Project Area**

Scientific Name	Common Name	Status Federal/State/CRPR/Draft San Diego MHCP Oceanside Subarea Plan	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation (feet)	Status On Site or Potential to Occur
<i>Viguiera purisimae</i>	La Purisima viguiera	None/None/2B.3/None	Coastal bluff scrub, chaparral/shrub/Apr– Sep/1198–1394	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.

¹ Vicinity" refers to species recorded in the USGS 7.5-minute Morrow Hill quadrangle (CDFW 2016).

Note: This table includes all Covered Species from the City of Oceanside's Subarea Plan (City of Oceanside 2010) and Rare Plant Rank 1–4 species reported by the California Department of Fish and Wildlife (2017a) and California Native Plant Society (2017) in the Morrow Hill 7.5-minute topographic quadrangle and surrounding eight quadrangles: Oceanside, Las Pulgas Canyon, San Luis Rey, Bonsall, San Marcos, Fallbrook, Temecula, and Margarita Peak.

Legend:

FE: Federally listed as endangered
 FT: Federally listed as threatened
 FC: Federal Candidate for listing
 CE: State listed as endangered
 CT: State listed as threatened

CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
 CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
 CRPR 3: Plants about which more information is needed – a review list
 CRPR 4: Plants of limited distribution – a watch list

1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
 2: Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)
 3: Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known)
 Covered: Proposed for Coverage under the Draft Oceanside Subarea Plan (City of Oceanside 2010)

APPENDIX C (Continued)

INTENTIONALLY LEFT BLANK

APPENDIX D

*Special-Status Wildlife Species Not Expected or
Low Potential to Occur on the Project Site*

APPENDIX D
Special-Status Wildlife Species Not Expected or Low Potential to Occur on the Project Site

Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area

Species	Common Name	Status (Federal/ State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Amphibians</i>					
<i>Anaxyrus californicus</i>	arroyo toad	FE/SSC	Covered	Semiarid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically 3rd order); adjacent stream terraces and uplands for foraging and wintering	No breeding habitat (e.g., stream channels) on site. Low potential to aestivate in the mulefat scrub along the western side of the site adjacent to the San Luis Rey River. Site supports limited suitable habitat due to active agriculture. This species is known to occur in the project vicinity. The closest CNDDDB occurrence is 5.3 miles northwest of the project area within the Santa Margarita River at Camp Pendleton (CDFW 2018).

APPENDIX D (Continued)

**Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area**

Species	Common Name	Status (Federal/State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Spea hammondi</i>	western spadefoot	None/SSC	Covered	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley-foothill woodlands, pastures, and other agriculture	No breeding habitat (e.g., stream channels) on site. Ditches and constructed ponds within the site are not suitable for this species due to the active agricultural practices frequently changing conditions. Low potential burrow in the mulefat scrub along the western side of the site adjacent to the San Luis Rey River. Site supports limited suitable habitat. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 8.4 miles northwest of the project area in Camp Pendleton (CDFW 2018).
<i>Taricha torosa</i>	California newt	None/SSC	None	Wet forests, oak forests, chaparral, and rolling grassland	Not expected to occur. No suitable habitat present. Not recorded in the vicinity (CDFW 2017; USFWS 2017).
<i>Reptiles</i>					
<i>Actinemys marmorata</i>	western pond turtle	None/SSC	Covered	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter.	Not expected to occur. No suitable habitat present. Not recorded in the vicinity (CDFW 2017; USFWS 2017).

APPENDIX D (Continued)

**Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area**

Species	Common Name	Status (Federal/ State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Aspidoscelis hyperythra</i>	orangethroat whiptail	None/WL	Covered	Low-elevation coastal scrub, chaparral, and valley–foothill hardwood	Not expected to occur. No suitable habitat present; site is highly disturbed. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 1.7 miles east of the project area within San Luis Rey River (CDFW 2018).
<i>Aspidoscelis tigris stejnegeri</i>	San Diegan tiger whiptail	None/SSC	None	Open areas in semiarid grasslands, scrublands, and woodlands	Not expected to occur. No suitable habitat present; site is highly disturbed. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 7.7 miles northwest of the project area in Camp Pendleton (CDFW 2018).
<i>Coleonyx variegatus abbotti</i>	San Diego banded gecko	None/SSC	None	Rocky areas within coastal scrub and chaparral	Not expected to occur. No suitable habitat present.
<i>Crotalus ruber</i>	red diamondback rattlesnake	None/SSC	None	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats that provide dense vegetation or rocky cover	Not expected to occur; site is highly disturbed and there is no suitable habitat present. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 7.6 miles north of the project area near the Santa Margarita River in Camp Pendleton (CDFW 2018).

APPENDIX D (Continued)

**Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area**

Species	Common Name	Status (Federal/ State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Phrynosoma blainvillii</i>	Blainville's horned lizard	None/SSC	None	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley-foothill hardwood, conifer, riparian, pine-cypress, juniper, and annual grassland habitats	Not expected to occur. No suitable habitat present; site is highly disturbed. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 7.7 miles northwest of the project area in Camp Pendleton (CDFW 2018).
<i>Salvadora hexalepis virgulata</i>	coast patch-nosed snake	None/SSC	None	Brushy or shrubby habitat; requires small mammal burrows for refuge and overwintering sites	Low potential to occur in the mulefat scrub along the western side of the site. Limited suitable habitat present; site is highly disturbed.
<i>Thamnophis hammondi</i>	two-striped gartersnake	None/SSC	None	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	No relatively permanent surface water on site; low potential to occur in areas adjacent to the San Luis Rey River. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 7.3 miles northwest of the project area in Camp Pendleton (CDFW 2018).

APPENDIX D (Continued)

**Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area**

Species	Common Name	Status (Federal/ State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Thamnophis sirtalis</i> ssp. (Coastal plain from Ventura Co. to San Diego Co., from sea level to about 850 m.)	south coast garter snake	None/SSC	None	Marsh and upland habitats near permanent water and riparian habitat	No surface water on site; low potential to occur in areas adjacent to the San Luis Rey River. This species is known to occur in the project vicinity. The closest known CNDDB occurrence is 3.7 miles southwest of the project area in San Luis Rey River (CDFW 2018).
<i>Birds</i>					
<i>Accipiter cooperii</i> (nesting)	Cooper's hawk	None/WL	Covered	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	Low potential to nest due to limited trees on site. High potential to use site to forage. This species is known to occur in the project vicinity. The closest known CNDDB occurrence is 1.7 miles southeast of the project area at Jeffries Ranch (CDFW 2018).
<i>Agelaius tricolor</i> (nesting colony)	tricolored blackbird	BCC/SC, SSC	None	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	Not expected to nest on site. Limited suitable habitat on site. May use site to forage. This species is known to occur in the project vicinity. The closest known CNDDB occurrence is 0.7 miles southwest of the project area in San Luis Rey River (CDFW 2018).

APPENDIX D (Continued)

**Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area**

Species	Common Name	Status (Federal/ State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Aimophila ruficeps canescens</i>	southern California rufous-crowned sparrow	None/WL	Covered	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	Not expected to occur. No suitable habitat present. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 2.0 miles west of the project area along the ridge northeast of Windmill Lake (CDFW 2018).
<i>Aquila chrysaetos</i> (nesting & wintering)	golden eagle	BCC/FP, WL	Covered	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	Not expected to occur. No suitable habitat present.
<i>Artemisiospiza belli belli</i>	Bell's sage sparrow	BCC/WL	Covered	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses more open habitat in winter	Not expected to occur. No suitable habitat present.
<i>Athene cunicularia</i> (burrow sites & some wintering sites)	burrowing owl	BCC/SSC	None	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Low potential to occur. Site supports ground squirrel population and open habitat for foraging; however, the closest CNDDDB records for this species are 14 miles away (CDFW 2017).

APPENDIX D (Continued)

**Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area**

Species	Common Name	Status (Federal/ State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Buteo swainsoni</i> (nesting)	Swainson's hawk	BCC/ST	None	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	This species is no longer known to nest in the region. Moderate potential to migrate through the area and may use site to forage. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 4.2 miles northwest of the project area in Santa Margarita Ranch (CDFW 2018).
<i>Campylorhynchus brunneicapillus sandiegensis</i> (San Diego & Orange Counties only)	coastal cactus wren	BCC/SSC	None	Southern cactus scrub patches	Not expected to occur. No suitable habitat present. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 2.5 miles west of the project area east of Windmill Canyon in Camp Pendleton (CDFW 2018).
<i>Charadrius alexandrinus nivosus</i> (nesting)	western snowy plover	FT, BCC/SSC	Covered	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	Not expected to occur. No suitable habitat present.

APPENDIX D (Continued)

**Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area**

Species	Common Name	Status (Federal/ State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Circus cyaneus</i> (nesting)	northern harrier	None/SSC	None	Nests in open wetlands (marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs, rangelands, emergent wetlands, and other open habitats	Low potential to nest. High potential to forage on site. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 4.8 miles west of the project area within Ysidora Flats basin, Santa Margarita River, in Camp Pendleton (CDFW 2018).
<i>Coccyzus americanus occidentalis</i> (nesting)	western yellow-billed cuckoo	FT, BCC/SE	None	Nests in dense, wide riparian woodlands and forest with well-developed understories	There is no nesting habitat on site. Potential to nest in habitat in the San Luis Rey River and low potential to forage on site; however, this species is not common. This species is known to occur in the project vicinity. The closest known USFWS occurrence is 2.1 miles southwest of the project area within San Luis Rey River (USFWS 2018).
<i>Elanus leucurus</i> (nesting)	white-tailed kite	None/FP	None	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	Low potential to nest on site, but likely to nest in suitable habitat in the San Luis Rey River. High potential to forage on site.

APPENDIX D (Continued)

**Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area**

Species	Common Name	Status (Federal/ State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Empidonax traillii extimus</i> (nesting)	southwestern willow flycatcher	FE/SE	Covered	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	There is no nesting habitat on site. Potential to nest in habitat in the San Luis Rey River and low potential to forage on site. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 100 feet southeast of the project area within the San Luis Rey River (CDFW 2018).
<i>Falco peregrinus anatum</i> (nesting)	American peregrine falcon	FDL, BCC/SDL, FP	Covered	Nests on cliffs, buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present	Not expected to occur. No suitable habitat present. Not recorded in the vicinity (CDFW 2017; USFWS 2017).
<i>Icteria virens</i> (nesting)	yellow-breasted chat	None/SSC	Covered	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	There is no nesting habitat on site. Potential to nest in habitat in the San Luis Rey River and forage on site. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 0.6 miles west of the project area in San Luis Rey River (CDFW 2018).
<i>Ixobrychus exilis</i> (nesting)	least bittern	BCC/SSC	None	Nests in freshwater and brackish marshes with dense, tall growth of aquatic and semi-aquatic habitat	Not expected to occur. No suitable habitat present.
<i>Pandion haliaetus</i> (nesting)	osprey	None/WL	Covered	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast	Not expected to occur. No suitable habitat present. Not recorded in the vicinity (CDFW 2017; USFWS 2017).

APPENDIX D (Continued)

**Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area**

Species	Common Name	Status (Federal/ State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow	None/SE	None	Nests and forages in coastal saltmarsh dominated by pickleweed (<i>Salicornia</i> spp.)	Not expected to occur. No suitable habitat present.
<i>Passerculus sandwichensis rostratus</i> (wintering)	large-billed savannah sparrow	None/SSC	Covered	Nests and forages in open, low saltmarsh vegetation, including low halophytic scrub	Not expected to occur. No suitable habitat present. Not recorded in the vicinity (CDFW 2017; USFWS 2017).
<i>Plegadis chihi</i> (nesting colony)	white-faced ibis	None/WL	Covered	Nests in shallow marshes with areas of emergent habitat; winter foraging in shallow lacustrine waters, flooded agricultural fields, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields, and estuaries	Not expected to occur. No suitable habitat present.
<i>Polioptila californica californica</i>	coastal California gnatcatcher	FT/SSC	Covered	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level	Not expected to occur. No suitable habitat present. This species is known to occur in the project vicinity. The closest known CNBBD occurrence is 1.0 miles northwest of the project area south of Pilgrim Creek (CDFW 2018).
<i>Rallus obsoletus levipes</i>	Ridgway's rail	FE/SE, FP	Covered	Coastal wetlands, brackish areas, coastal saline emergent wetlands	Not expected to occur. No suitable habitat present. Not recorded in the vicinity (CDFW 2017; USFWS 2017).
<i>Riparia riparia</i> (nesting)	bank swallow	None/ST	None	Nests in riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration	Not expected to nest on site due to lack of suitable nesting habitat. May forage on site.

APPENDIX D (Continued)

**Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area**

Species	Common Name	Status (Federal/ State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Setophaga petechia</i> (nesting)	yellow warbler	BCC/SSC	None	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	Low potential to nest in the mulefat scrub. May use site to forage. This species is known to occur in the project vicinity. The closest known CNDDB occurrence is 0.6 miles west in San Luis Rey River (CDFW 2018).
<i>Sialia mexicana</i>	western bluebird	None/None	Covered	Nests in old-growth red fir, mixed-conifer, and lodgepole pine habitats near wet meadows used for foraging	Not expected to occur. No suitable habitat present.
<i>Sternula antillarum browni</i> (nesting colony)	California least tern	FE/SE, FP	Covered	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Not expected to occur. No suitable habitat present.
<i>Thalasseus elegans</i> (nesting colony)	elegant tern	None/WL	Covered	Inshore coastal waters, bays, estuaries, and harbors; forages over open water	Not expected to occur. No suitable habitat present.
<i>Vireo bellii pusillus</i> (nesting)	least Bell's vireo	FE/SE	Covered	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Low potential to nest. There is no dense nesting habitat and limited foraging habitat on site. Potential to nest in habitat in the San Luis Rey River and low potential to forage on site. This species is known to occur in the project vicinity. The closest known CNDDB occurrence is 0.5 miles northwest of the project area in a tributary to San Luis Rey River at the Arrowood Golf Course (CDFW 2018).

APPENDIX D (Continued)

**Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area**

Species	Common Name	Status (Federal/ State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Fish</i>					
<i>Eucyclogobius newberryi</i>	tidewater goby	FE/SSC	None	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River	Not expected to occur. No perennial water on site.
<i>Gila orcuttii</i>	arroyo chub	None/SSC	None	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths >40 centimeters (16 inches); substrates of sand or mud	Not expected to occur. No perennial water on site. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 6.0 miles north of the project area in Santa Margarita River on Camp Pendleton (CDFW 2018).
<i>Oncorhynchus mykiss irideus</i>	southern steelhead - southern California DPS	FE/SSC	None	Clean, clear, cool, well-oxygenated streams; needs relatively deep pools in migration and gravelly substrate to spawn	Not expected to occur. No perennial water present.

APPENDIX D (Continued)

**Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area**

Species	Common Name	Status (Federal/ State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Mammals</i>					
<i>Antrozous pallidus</i>	pallid bat	None/SSC	None	Grasslands, shrublands, oak woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but may also roosts in man-made structures and trees away from human activity.	Moderate potential to occur. May use site for foraging. Although there is a potential for roosting in the eucalyptus trees and abandoned structures, there is heavy human influence which would likely preclude this species from using those features. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 6.0 miles northwest of the project area on Camp Pendleton (CDFW 2018).
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	None/SSC	None	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed-conifer habitats; disturbance specialist; 0 to 3,000 feet above mean sea level	Low potential to occur. Site is highly disturbed and regularly tilled. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 4.5 miles northwest of the project area at Santa Margarita Ranch (CDFW 2018).
<i>Chaetodipus fallax fallax</i>	northwestern San Diego pocket mouse	None/SSC	Covered	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland	Not expected to occur. No suitable habitat present. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 7.1 miles north of the project area near the US Navy Support Facility (CDFW 2018).

APPENDIX D (Continued)

**Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area**

Species	Common Name	Status (Federal/ State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None/SSC	None	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	There is no roosting habitat on site. Low potential to forage on site.
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	FE/ST	None	Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas	Low potential to occur. Site is highly disturbed and regularly tilled. This species is known to occur in the project vicinity. The closest known CNDDB occurrence is 1.1 miles west of the project area south of Camp Pendleton (CDFW 2018).
<i>Eumops perotis californicus</i>	western mastiff bat	None/SSC	Covered	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	There is no roosting habitat on site. Moderate potential to forage on site. This species is known to occur in the project vicinity. The closest known CNDDB occurrence is 5.2 miles northwest of the project area along O'Neill Lake (CDFW 2018).
<i>Lasiurus xanthinus</i>	western yellow bat	None/SSC	None	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	There is no roosting habitat on site. Low potential to forage on site.
<i>Leptonycteris yerbabuena</i>	lesser long-nosed bat	FE/None	None	Sonoran desert scrub, semi-desert grasslands, lower oak woodlands	Not expected to occur. No suitable habitat present.
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	None/SSC	Covered	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Low potential to occur. Site is highly disturbed.

APPENDIX D (Continued)

**Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area**

Species	Common Name	Status (Federal/ State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	None/SSC	None	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Not expected to occur. No suitable habitat present.
<i>Nyctinomops femorosaccus</i>	pocketed free-tailed bat	None/SSC	None	Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with dropoffs, caverns, and buildings	Not expected to occur. No suitable habitat present. This species is known to occur in the project vicinity. The closest known CNDDB occurrence is 7.1 miles north of the project area near Santa Margarita River on Camp Pendleton (CDFW 2018).
<i>Odocoileus hemionus</i>	mule deer	None/None	Covered	Coastal sage scrub, chaparral, riparian, woodlands, and forest; often browses in open area adjacent to cover throughout California, except deserts and intensely farmed areas	Low potential to occur. Limited suitable habitat present.
<i>Perognathus longimembris brevinasus</i>	Los Angeles pocket mouse	None/SSC	None	Lower-elevation grassland, alluvial sage scrub, and coastal scrub	Not expected to occur. No suitable habitat present.
<i>Perognathus longimembris internationalis</i>	Jacumba pocket mouse	None/SSC	Covered	Desert scrub and sparse sage scrub in areas with fine sandy soils	Not expected to occur. No suitable habitat present. Not recorded in the vicinity (CDFW 2017; USFWS 2017).
<i>Perognathus longimembris pacificus</i>	Pacific pocket mouse	FE/SSC	None	Fine-grained sandy substrates in open coastal strand, coastal dunes, and river alluvium	Low potential to occur in the mulefat scrub adjacent to the San Luis Rey River.
<i>Puma concolor</i>	cougar	None/None	Covered	Scrubs, chaparral, riparian, woodland, and forest; rests in rocky areas and on cliffs and ledges that provide cover; most abundant in riparian areas and brushy stages of most habitats throughout California, except deserts	Not expected to occur. Limited suitable habitat present and species prefers areas with cover.

APPENDIX D (Continued)

**Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area**

Species	Common Name	Status (Federal/ State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Taxidea taxus</i>	American badger	None/SSC	None	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Low potential to occur. Site is highly disturbed.
<i>Invertebrates</i>					
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	FT/None	None	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats	Not expected to occur. No suitable habitat present.
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	FE/None	None	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No suitable habitat present. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 1.8 miles northwest of the project area along Pilgrim Creek on Camp Pendleton (CDFW 2018).
<i>Euphydryas editha quino</i>	quino checkerspot butterfly	FE/None	Covered	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include <i>Plantago erecta</i> , <i>Antirrhinum coulterianum</i> , and <i>Plantago patagonica</i> (Silverado Occurrence Complex)	Not expected to occur. No suitable habitat present. Not recorded in the vicinity (CDFW 2017; USFWS 2017).
<i>Panoquina errans</i>	wandering skipper	None/None	Covered	Saltmarsh	Not expected to occur. No suitable habitat present. Not recorded in the vicinity (CDFW 2017; USFWS 2017).

APPENDIX D (Continued)

**Table D-1
Special-Status Wildlife Species Potential to Occur in the Project Area**

Species	Common Name	Status (Federal/ State)	Draft San Diego MHCP Oceanside Subarea Plan	Habitat	Potential to Occur
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	FE/None	None	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No suitable habitat present. This species is known to occur in the project vicinity. The closest known CNDDDB occurrence is 1.8 miles northwest of the project area along Pilgrim Creek on Camp Pendleton (CDFW 2018).
<i>Tryonia imitator</i>	mimic tryonia (=California brackishwater snail)	None/None	None	Inhabits coastal lagoons, estuaries, and saltmarshes, from Sonoma County south to San Diego County	Not expected to occur. No suitable habitat present.

¹ "Vicinity" refers to species recorded in the USGS 7.5-minute Morrow Hill quadrangle (CDFW 2017).

Note: This table includes all special-status species reported by the California Department of Fish and Wildlife (2017) and U.S. Fish and Wildlife Service (2017) in the Morrow Hill 7.5-minute quadrangle and surrounding eight quadrangles: Oceanside, Las Pulgas Canyon, San Luis Rey, Bonsall, San Marcos, Fallbrook, Temecula, and Margarita Peak. It also includes all species covered under the San Diego MHCP Oceanside Subarea Plan.

Legend:

FE: Federally Endangered

FT: Federally Threatened

FDL: Federally Delisted

BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern

SSC: California Species of Special Concern

FP: California Fully Protected Species

WL: California Watch List Species

SE: State Endangered

ST: State Threatened

SC: State Candidate

SDL: State Delisted

Covered: Proposed for Coverage under the Draft Oceanside Subarea Plan (City of Oceanside 2010)

None: No status designation

APPENDIX D (Continued)

INTENTIONALLY LEFT BLANK

APPENDIX E

Jurisdictional Delineation Data Forms

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: North River Farms City/County: Oceanside/San Diego Sampling Date: 3/6/17
 Applicant/Owner: Integral Communities State: CA Sampling Point: 1A
 Investigator(s): Katie Dayton Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C - Mediterranean California Lat: 33°15'15.808"N Long: 117°17'14.379"W Datum: NAD83
 Soil Map Unit Name: Tujunga sand, 0 to 5 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Data station taken in mulefat scrub just upslope from a non-vegetated channel that connects to the San Luis Rey River.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100.0 %</u> (A/B)
4. _____	_____	_____	_____		
Total Cover: _____ %					
Sapling/Shrub Stratum				Prevalence Index worksheet:	
1. <u>Baccharis salicifolia</u>	<u>80</u>	<u>Yes</u>	<u>FAC</u>	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species	<u>0</u>
3. _____	_____	_____	_____	FACW species	<u>50</u> x 2 = <u>100</u>
4. _____	_____	_____	_____	FAC species	<u>100</u> x 3 = <u>300</u>
5. _____	_____	_____	_____	FACU species	<u>0</u> x 4 = <u>0</u>
Total Cover: <u>80 %</u>				UPL species	<u>2</u> x 5 = <u>10</u>
Herb Stratum				Column Totals:	<u>152</u> (A) <u>410</u> (B)
1. <u>Conium maculatum</u>	<u>50</u>	<u>Yes</u>	<u>FACW</u>	Prevalence Index = B/A = <u>2.70</u>	
2. <u>Urtica dioica</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>		
3. <u>Foeniculum vulgare</u>	<u>2</u>	<u>No</u>	<u>Not Listed</u>		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
Total Cover: <u>72 %</u>					
Woody Vine Stratum				Hydrophytic Vegetation Indicators:	
1. _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
2. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present.	
Total Cover: _____ %					
% Bare Ground in Herb Stratum <u>28 %</u>		% Cover of Biotic Crust <u>0 %</u>		Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	

Remarks: In some areas along the mulefat scrub Urtica dioica is more dominant/abundant than Conium maculatum, but these two herbs are consistent throughout the mapped mulefat scrub.

SOIL

Sampling Point: 1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	7.5 YR 3/2	100					Clay loam	
9-16	7.5 YR 3/3	100					Sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils:⁴ <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
--	--	---	--

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____ Remarks: _____	Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
--	---

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (2 or more required) <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
--	---	--

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: There are hydrological indicators associated with the non-vegetated channel directly adjacent to the sampling point, including drift deposits and drainage patterns. However, this point was taken in the mulefat scrub just above the channel bottom.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: North River Farms City/County: Oceanside/San Diego Sampling Date: 3/6/17
 Applicant/Owner: Integral Communities State: CA Sampling Point: 1B
 Investigator(s): Katie Dayton Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 10
 Subregion (LRR): C - Mediterranean California Lat: 33°15'15.931"N Long: 117°17'14.263"W Datum: NAD83
 Soil Map Unit Name: Tujunga sand, 0 to 5 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Data station taken in disturbed habitat (uplands) upslope of mulefat scrub associated with a channel that connects to the San Luis Rey River.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100.0 %</u> (A/B)
4. _____				Prevalence Index worksheet:	
Total Cover: _____ %				Total % Cover of: _____ Multiply by: _____	
Sapling/Shrub Stratum				OBL species	<u> </u> x 1 = <u>0</u>
1. _____				FACW species	<u>2</u> x 2 = <u>4</u>
2. _____				FAC species	<u>5</u> x 3 = <u>15</u>
3. _____				FACU species	<u> </u> x 4 = <u>0</u>
4. _____				UPL species	<u> </u> x 5 = <u>0</u>
5. _____				Column Totals:	<u>7</u> (A) <u>19</u> (B)
Total Cover: _____ %				Prevalence Index = B/A = <u>2.71</u>	
Herb Stratum				Hydrophytic Vegetation Indicators:	
1. <u>Conium maculatum</u>	<u>2</u>	<u>Yes</u>	<u>FACW</u>	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <u>Urtica dioica</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. _____				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____				¹ Indicators of hydric soil and wetland hydrology must be present.	
6. _____				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
7. _____					
8. _____					
Total Cover: <u>7</u> %					
Woody Vine Stratum					
1. _____					
2. _____					
Total Cover: _____ %					
% Bare Ground in Herb Stratum <u>93 %</u>		% Cover of Biotic Crust <u>0 %</u>			

Remarks: Area was weed whipped or subject to some other form of mechanical disturbance so that vegetation is mostly cut and dying on slope. Given low cover of herbs and disturbance of vegetation, vegetation is not predominantly hydric.

SOIL

Sampling Point: 1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	7.5 YR 3/2	100					Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils:⁴ <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
--	--	---	--

Restrictive Layer (if present): Type: _____ Depth (inches): _____ Remarks: _____	Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
--	---

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (2 or more required) <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
---	---	---

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology associated with this sample point. Hydrology associated with the non-vegetated channel nearby includes drift deposits and drainage patterns.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: North River Farms City/County: Oceanside/San Diego Sampling Date: 3/6/17
 Applicant/Owner: Integral Communities State: CA Sampling Point: 2
 Investigator(s): Katie Dayton Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C - Mediterranean California Lat: 33°15'7.761"N Long: 117°17'2.89"W Datum: NAD83
 Soil Map Unit Name: Tujunga sand, 0 to 5 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Data station taken in southern arroyo willow riparian forest associated the San Luis Rey River.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <i>Salix gooddingii</i>	70	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	4 (A)
2. _____				Total Number of Dominant Species Across All Strata:	4 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____				Prevalence Index worksheet:	
Total Cover: 70 %				Total % Cover of: _____ Multiply by: _____	
Sapling/Shrub Stratum				OBL species	x 1 = 0
1. <i>Baccharis salicifolia</i>	20	Yes	FAC	FACW species	100 x 2 = 200
2. _____				FAC species	40 x 3 = 120
3. _____				FACU species	x 4 = 0
4. _____				UPL species	x 5 = 0
5. _____				Column Totals:	140 (A) 320 (B)
Total Cover: 20 %				Prevalence Index = B/A = 2.29	
Herb Stratum				Hydrophytic Vegetation Indicators:	
1. <i>Conium maculatum</i>	30	Yes	FACW	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <i>Urtica dioica</i>	20	Yes	FAC	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. _____				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____				¹ Indicators of hydric soil and wetland hydrology must be present.	
6. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
7. _____					
8. _____					
Total Cover: 50 %					
Woody Vine Stratum					
1. _____					
2. _____					
Total Cover: %					
% Bare Ground in Herb Stratum %		% Cover of Biotic Crust		0 %	

Remarks: _____

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)		Indicators for Problematic Hydric Soils:⁴ <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
--	--	---	--	--

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: No sample pit taken. Assumed hydric given that this point is within the San Luis Rey River, is dominated by mature Salix gooddingii and other hydric vegetation, and there is standing water within sampling plot.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (2 or more required) <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
---	---	--

Field Observations:

Surface Water Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/>	No <input type="radio"/>	Depth (inches): _____

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Standing water visible within sampling plot.