Appendix C

Biological Resources

ESA

C1 Biological Technical Report and Jurisdictional Delineation

BIOLOGICAL TECHNICAL REPORT
FOR
LOS CERRITOS WETLANDS OIL CONSOLIDATION AND RESTORATION PROJECT

CITY OF LONG BEACH
LOS ANGELES COUNTY, CALIFORNIA

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EXECUTIVE SUMMARY

The Los Cerritos Wetlands Oil Consolidation and Restoration Project (proposed project/project site) would implement a comprehensive wetland restoration and oil consolidation project that will restore a privately-owned oil field in the City of Long Beach through the creation of a mitigation bank on a portion of an existing oil field, consolidation of oil production facilities onto two nearby parcels, and phased removal of existing oil wells. The project is proposed by Beach Oil Minerals Partners (BOMP).

The project site consists of four separate properties including 1) the 150-acre Synergy Oil Field, which will be the site of the proposed Upper Los Cerritos Wetlands Mitigation Bank and oil field revegetation, 2) the approximately seven-acre Pumpkin Patch site, 3) the approximately four-acre Los Cerritos Wetlands Authority site, and 4) the City Property consisting of approximately 33 acres.

1.0 INTRODUCTION

Biologists from Glenn Lukos Associates, Inc. (GLA) conducted biological surveys on the project site between 2010 and 2017. In addition, each site was evaluated for the presence of areas potentially subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Clean Water Act and Section 10 of the 1899 Rivers and Harbors Act, the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the Clean Water Act and Section 13050 of the Porter Cologne Water Quality Control Act, the California Department of Fish and Wildlife (CDFW) pursuant to Section 1602 of the California Fish and Game Code, and wetlands as defined under the California Coastal Act (CCA).

This report includes an analysis of the potential impacts to biological resources associated with the proposed project as it pertains to special-status species and habitats.

Potential impacts (direct and/or indirect) to special-status species and habitats are addressed below for purposes of review under the California Coastal Act (CCA). In addition, impacts to species listed as threatened or endangered under the federal Endangered Species Act (ESA) or their designated Critical Habitat are regulated by the U.S. Fish and Wildlife Service (USFWS) and species listed as threatened or endangered by the State of California are regulated by the California Department of Fish and Wildlife (CDFW) pursuant to the State ESA, and are addressed below.

For purposes of this report, permanent and temporary impacts are considered for each of the properties which comprise the proposed project.

1.1 Project Location

The proposed project is located in the City of Long Beach, in Los Angeles County [Exhibit 1: Regional Map and Exhibit 2: Vicinity Map]. Specifically, the proposed project would be implemented on four properties: the Synergy Oil Field site, Pumpkin Patch site, Los Cerritos Wetlands Authority (LCWA) site, and City-owned Property located in the southeast portion of the City. The proposed project includes the relocation of specific oil facilities currently located on the Synergy Oil Field and City-owned properties to two off-site properties, the LCWA site and the Pumpkin Patch site, both of which are in close proximity to the Synergy Oil Field. The location of each property is described in more detail below and depicted on Exhibit 3: Project Site Map.

Synergy Oil Field: The Synergy Oil Field consists of an approximately 150-acre property located at 6433 E. 2nd Street. The site is bound by Pacific Coast Highway to the west, 2nd Street to the south, Studebaker Road to the east and the Los Cerritos Channel to the north.

Pumpkin Patch site: The Pumpkin Patch site comprises an approximately seven-acre property located at 6701 E. Pacific Coast Highway. The site is located adjacent to the southern boundary of a single-story commercial-retail development called the Marketplace. The site is bound by Pacific Coast Highway to the west, the San Gabriel River to the south, the commercial-retail uses at the Marketplace to the north, and undeveloped land associated with the City-owned property

to the east. The proposed project will occur on approximately five acres in the southwest portion of the site, with the remaining two acres in the northeast portion to be avoided. Adjoining the Pumpkin Patch site to the north is a 0.80-acre undeveloped parcel that is currently within the City's right-of-way. The proposed project would implement street improvements to this offsite parcel in order to provide access into the Pumpkin Patch site.

Los Cerritos Wetlands Authority site: The Los Cerritos Wetlands Authority (LCWA) site consists of an approximately four-acre parcel located at the northeast corner of the 2nd Street and Studebaker Road intersection. The site is bound by Westminster Avenue to the south and Studebaker Road to the west, and is adjacent to buildings associated with industrial uses to the north and east.

City Property site: The City Property site is an approximately 33-acre site located at 2nd Street and Shopkeeper Road. The site is bound by Shopkeeper Road to the west, 2nd Street to the north, undeveloped land to the east, and the San Gabriel River to the south.

1.2 Project Description

The proposed project would implement a comprehensive wetland restoration and oil consolidation project that will restore a privately-owned oil field in the City of Long Beach through the creation of a mitigation bank on a portion of an existing oil field, consolidation of oil production facilities onto two nearby parcels, and phased removal of existing oil wells. The proposed project would be implemented on the four properties described below, all of which are located in the southeast portion of the City. A summary of the project activities proposed at each of the sites is provided below, with additional detail provided in Section 5.0. Due to the complex nature and numerous components of the project, the description provided herein may be modified as the project is reviewed.

Synergy Oil Field: The proposed project would separate the Synergy Oil Field into two phases. Phase 1 would establish the Upper Los Cerritos Wetlands Mitigation Bank and public access trail on the northerly 76.52 acres of the Synergy Oil Field (formerly known as the Bixby Oil Field). Phase 2 would occur on the southerly 73.07 acres of the Synergy Oil Field. Within the Phase 2 area, the project would implement public access improvements on 1.28 acres, including a trail that would connect to the trail on the Mitigation Bank, a parking lot on existing disturbed areas and relocating and converting an existing building for use as a visitors' center. The removal of oil facilities such as above-ground pipelines and tanks would occur throughout the Phase 2 area, along with the removal and abandonment of 39 oil wells over time. A revegetation plan for the Phase 2 area would be implemented upon removal of the oil facilities. The remaining 0.54 acre within the project boundary would be developed as eight to ten-foot wide sidewalks added along the perimeter of the Synergy Oil Field on Pacific Coast Highway, 2nd Street, and Studebaker Road. The sidewalks would extend offsite into the City's right-of-way for 0.81 acre.

Pumpkin Patch site: The proposed project would construct an approximately 5,200-square-foot, two-story office building 35 feet in height and an approximately 9,750 square feet of storage/warehouse 22 feet in height, and a 35-space parking area on approximately five acres of the southwest portion of the site. Additionally, a portion of the oil production activities currently

being conducted at the Synergy Oil Field will be developed on the Pumpkin Patch site. The project proposes the development of three oil well cellars which will house up to a maximum of 50 wells (oil production and water injection), and construction of two tanks: a 3,000 barrel "wet oil" tank (30 feet in diameter and 24 feet high), and a 2,000-barrel "skim oil" tank (24 feet in diameter and 24 feet high). A drill rig, approximately 160 feet in height will be used on-site to initially drill the wells. A workover rig, approximately 120 feet in height will be brought onsite to re-drill wells as necessary. A 22-foot wall will be constructed on the perimeter of the site. The remaining approximately two acres of the site in the northeast would be avoided. One oil well located within the avoided two-acre area would be removed and abandoned in the same manner as the wells on the Synergy Oil Field. Adjoining the Pumpkin Patch site to the north is a 0.83-acre undeveloped parcel that is currently within the City's right-of-way. The proposed project would implement street improvements to this offsite parcel in order to provide access into the Pumpkin Patch site and would add a 16-foot wide sidewalk along the southern boundary of the offsite parcel. Repairs would be made to the existing sidewalk along the segment of Pacific Coast Highway adjacent to the Pumpkin Patch site, within the City's right-of-way.

Los Cerritos Wetlands Authority (LCWA) site: The project proposes to develop up to a maximum of 70 wells (oil production and water injection) in three well cellars to be constructed on approximately four acres of the LCWA site. In addition to the wells, the project proposes the construction of two oil tanks (a 28,000 barrel sales oil tank 70 feet in diameter and 48 feet high and a 5,000-barrel injection water tank 35 feet high and 32 feet in diameter) and three natural-gas-powered turbines that will be used to generate power for the oil production operations on both the LCWA and Pumpkin Patch sites. A drill rig, approximately 160 feet in height, will be used on-site to initially drill the wells. A workover rig, approximately 120 feet in height will be brought on site to re-drill wells as necessary. A 15- to 20-foot-high ground flare will also be built on-site. To convey oil from the Pumpkin Patch site to the LCWA site, an underground pipeline will be jack and bored beneath the two sites. Ten-foot wide sidewalks would be added to the LCWA site along 2nd Street and Studebaker Road.

City Property site: The proposed project would remove oil facilities such as above-ground pipelines and tanks throughout the City-owned property. Over time, the proposed project would remove and abandon 13 oil wells currently being operated by Synergy on the approximately 33-acre City-owned property. A revegetation plan for the City-owned property would be implemented upon removal of the oil facilities. In order to connect the new oil production operations on the Pumpkin Patch and LCWA sites and to minimize truck traffic transporting produced oil, a new above-ground pipeline network would be constructed on the City Property site within a 40-foot-wide corridor. The pipeline would be sited primarily on existing oil field roads and developed areas; however, the existing oil field roads would need to be permanently widened to a total width of approximately 28 feet within the pipeline corridor to accommodate both the pipeline network and vehicular access. Off site, a 10-foot wide sidewalk comprising 0.95 acre would be added along 2nd Street. Segments of the pipeline traverse off site within the City's right-of-way through the intersection at 2nd Street and Studebaker Road (underground) and at the southern end prior to entering the Pumpkin Patch site.

2.0 METHODOLOGY

As summarized in Table 2-1, the four properties that comprise the proposed project have been subject to a suite of biological surveys during the last five years. More recently, beginning in 2014, GLA conducted detailed biological surveys, including 1) focused for special-status plants and animals, 2) vegetation mapping, 3) delineation of wetlands and other aquatic resources, and 4) general biological surveys to obtain floral and faunal inventories for each of the sites. GLA's work has been augmented and updated by the LCWA and City of Long Beach, particularly for the City Property site; therefore, with the exception of wintering surveys for the burrowing owl (*Athene cunicularia*) during the 2016/2017 season, no site-specific surveys were conducted by GLA on the City Property site for the proposed project. These survey efforts have created a database of biological resources for the four properties that comprise the proposed project.

2.1 Summary of Surveys

The project site has been the subject of numerous and detailed biological surveys. GLA has conducted biological surveys on the Synergy Oil Field for prior landowners since 2007 and has also surveyed adjacent areas within the larger Los Cerritos Wetlands complex. The summary of surveys below indicates the survey work conducted on the project site only for the current landowner.

Table 2-1
Summary of Surveys

Survey Date	Survey Type	Personnel; Organization
Synergy Oil Field		
February 5, 2014	California Rapid Assessment Method, Jurisdictional Delineation	S. Asgari, L. Lokovic, T. Pfeiffer, D. Smith, GLA
February 19, 2014	California Rapid Assessment Method	S. Asgari, L. Lokovic
October 3, 2014	Jurisdictional Delineation	T. Pfeiffer, T. Bomkamp, D. Smith
February 5, 2015	California Rapid Assessment Method	L. Kessans, S. Asgari
February 5, 2015	Jurisdictional Delineation	T. Pfeiffer, D. Smith
February 20, 2015	California Rapid Assessment Method	L. Kessans, T. Pfeiffer, S. Asgari
March 5, 2015	California Rapid Assessment Method	L. Kessans, S. Asgari
April 1, 2015	Burrowing Owl, Jurisdictional Delineation	T. Bomkamp
April 16, 2015	Focused Rare Plant Surveys	T. Bomkamp, P. Robinson
April 16, 2015	Focused Rare Plant Surveys	P. Robinson, D. Smith
June 1, 2015	Burrowing Owl Survey, General Biology	J. Fitzgibbon
June 23, 2015	Burrowing Owl Survey, General Biology	J. Fitzgibbon
July 14, 2015	Burrowing Owl Survey, General Biology	J. Fitzgibbon
July 31, 2015	Focused Rare Plant Surveys	T. Bomkamp
August 14, 15, 17, 2015	Jurisdictional Delineation	P. Robinson
January 28, 2016	Jurisdictional Delineation	T. Bomkamp
February 4, 2016	Botanical Surveys, Jurisdictional Delineation	T. Bomkamp, S. Asgari, P. Robinson
February 8, 2016	Jurisdictional Delineation	T. Bomkamp

Table 2-1 Summary of Surveys		
Survey Date	**Survey Type**	**Personnel; Organization**
February 11, 2016	Jurisdictional Delineation	L. Kessans, P. Robinson
February 23, 2016	Jurisdictional Delineation, Vegetation Mapping	T. Bomkamp, L. Kessans, P. Robinson, D. Smith, J. Fitzgibbon
February 26, 2016	Jurisdictional Delineation, Vegetation Mapping	T. Bomkamp, L. Kessans, P. Robinson, D. Smith
March 25, 2016	Jurisdictional Delineation	P. Robinson
April 13, 2016	Vegetation Mapping and General Biological Surveys	T. Bomkamp
April 18, 2016	Jurisdictional Delineation, Vegetation Mapping	T. Bomkamp
April 25, 2016	Focused Rare Plant Surveys	P. Robinson
April 26, 2016	Focused Rare Plant Surveys	P. Robinson
November 8, 2016,	Burrowing Owl Survey	J. Fitzgibbon, S. Cashin
December 28, 2016	Burrowing Owl Survey	J. Ahrens, J. Fitzgibbon
January 18, 2017	Burrowing Owl Survey	J. Ahrens, J. Fitzgibbon
February 15, 2017	Burrowing Owl Survey	J. Ahrens, J. Fitzgibbon
Pumpkin Patch		
May 11, 2011	General Biological Surveys	T. Bomkamp
October 12, 2011	Fairy Shrimp Surveys	K. Livergood
November 9, 2011	Fairy Shrimp Surveys	K. Livergood
November 17,2011	Fairy Shrimp Surveys	K. Livergood
November 28, 2011	Fairy Shrimp Surveys	K. Livergood
December 1, 2011	Fairy Shrimp Surveys	K. Livergood
December 4, 2011	Fairy Shrimp Surveys	K. Livergood
December 20, 2011	Fairy Shrimp Surveys	K. Livergood
December 27, 2011	Fairy Shrimp Surveys	K. Livergood
January 26, 2012	Fairy Shrimp Surveys	K. Livergood
February 3, 2012	Fairy Shrimp Surveys	K. Livergood
February 22, 2012	Fairy Shrimp Surveys	K. Livergood
March 5, 2012	Fairy Shrimp Surveys	K. Livergood
March 24, 2012	Fairy Shrimp Surveys	K. Livergood
March 30, 2012	Fairy Shrimp Surveys	K. Livergood
April 7, 2012	Fairy Shrimp Surveys	K. Livergood
April 21, 2012	Fairy Shrimp Surveys	K. Livergood
May 8, 2012	Fairy Shrimp Surveys	K. Livergood
December 6, 2012	Fairy Shrimp Surveys	K. Livergood
December 17, 2012	Fairy Shrimp Surveys	K. Livergood
December 27, 2012	Fairy Shrimp Surveys	K. Livergood
January 9, 2013	Fairy Shrimp Surveys	K. Livergood
January 16, 2013	Fairy Shrimp Surveys	K. Livergood
February 6, 2013	Fairy Shrimp Surveys	K. Livergood
February 20, 2012	Fairy Shrimp Surveys	K. Livergood

Table 2-1 Summary of Surveys		
Survey Date	**Survey Type**	**Personnel; Organization**
March 19, 2013	Fairy Shrimp Surveys	K. Livergood
November 11, 2013	Jurisdictional Determination	T. Bomkamp
April 1, 2015	Burrowing Owl Survey, Focused Rare Plant Surveys	T. Bomkamp, P. Robinson
June 1, 2015	Burrowing Owl Survey, General Biology	J. Fitzgibbon
June 23, 2015	Burrowing Owl Survey, General Biology	J. Fitzgibbon
July 14, 2015	Burrowing Owl Survey, General Biology	J. Fitzgibbon
October 20, 2015	Vegetation Mapping	J. Fitzgibbon
February 26, 2016	Vegetation Mapping	J. Fitzgibbon
April 26, 2016	Jurisdictional Delineation, Vegetation Mapping	T. Bomkamp
October 25, 2016	Fairy Shrimp Surveys (Ponding Check)	K. Livergood
November 8, 2016,	Burrowing Owl Survey	J. Fitzgibbon, S. Cashin
November 22, 2016	Fairy Shrimp Surveys (Ponding Check)	K. Livergood
November 29, 2016	Fairy Shrimp Surveys (Ponding Check)	K. Livergood
December 6, 2016	Fairy Shrimp Surveys	K. Livergood
December 13, 2016	Fairy Shrimp Surveys	K. Livergood
December 20, 2016	Fairy Shrimp Surveys	K. Livergood
December 27, 2016	Fairy Shrimp Surveys	K. Livergood
December 28, 2016	Burrowing Owl Survey	J. Ahrens, J. Fitzgibbon
January 3, 2017	Fairy Shrimp Surveys	K. Livergood
January 10, 2017	Fairy Shrimp Surveys	K. Livergood
January 17, 2017	Fairy Shrimp Surveys	K. Livergood
January 18, 2017	Burrowing Owl Survey	J. Ahrens, J. Fitzgibbon
January 24, 2017	Fairy Shrimp Surveys	K. Livergood
January 31, 2017	Fairy Shrimp Surveys	K. Livergood
February 7, 2017	Fairy Shrimp Surveys	K. Livergood
February 14, 2017	Fairy Shrimp Surveys	K. Livergood
February 15, 2017	Burrowing Owl Survey	J. Ahrens, J. Fitzgibbon
February 21, 2017	Fairy Shrimp Surveys	K. Livergood
February 28, 2017	Fairy Shrimp Surveys	K. Livergood
March 7, 2017	Fairy Shrimp Surveys	K. Livergood
March 14, 2017	Fairy Shrimp Surveys	K. Livergood
March 21, 2017	Fairy Shrimp Surveys	K. Livergood
March 28, 2017	Fairy Shrimp Surveys	K. Livergood
April 30, 2017	Belding's Savannah Sparrow Surveys	J. Ahrens
May 5, 2017	Belding's Savannah Sparrow Surveys	T. Bomkamp
May 6, 2017	Belding's Savannah Sparrow Surveys	T. Bomkamp
May 13, 2017	Belding's Savannah Sparrow Surveys	T. Campbell, T. Bomkamp
May 25, 2017	Belding's Savannah Sparrow Surveys	T. Campbell
LCWA		
April 1, 2015	Burrowing Owl Survey	T. Bomkamp

Table 2-1 Summary of Surveys		
Survey Date	**Survey Type**	**Personnel; Organization**
June 1, 2015	Burrowing Owl Survey, General Biology	J. Fitzgibbon
June 23, 2015	Burrowing Owl Survey, General Biology	J. Fitzgibbon
July 14, 2015	Burrowing Owl Survey, General Biology	J. Fitzgibbon
February 26, 2016	Vegetation Mapping, Jurisdictional Determination	J. Fitzgibbon
November 8, 2016,	Burrowing Owl Survey	J. Fitzgibbon, S. Cashin
December 28, 2016	Burrowing Owl Survey	J. Ahrens, J. Fitzgibbon
January 18, 2017	Burrowing Owl Survey	J. Ahrens, J. Fitzgibbon
February 15, 2017	Burrowing Owl Survey	J. Ahrens, J. Fitzgibbon
City Property		
November 8, 2016,	Burrowing Owl Survey	J. Fitzgibbon, S. Cashin
December 28, 2016	Burrowing Owl Survey	J. Ahrens, J. Fitzgibbon
January 18, 2017	Burrowing Owl Survey	J. Ahrens, J. Fitzgibbon
February 15, 2017	Burrowing Owl Survey	J. Ahrens, J. Fitzgibbon

2.2 Soil Resources

The Soil Conservation Service (SCS)[1] has not mapped soils to a precise scale within the Project site; therefore, a detailed soil map for cannot be prepared for the project sites. Based on the 1916 USGS Map, it is likely that tidal flats comprise the majority of soils on site; however, in many areas, these have been modified due to historic oil operations or previous land uses. Nevertheless, the following soil types are expected to occur:

2.2.1 Bolsa Silty Clay Loam

The Bolsa soil series are deep and somewhat poorly drained soils formed in mixed alluvium and are found in flood plans and basins. In a typical profile, the surface layer is dark greyish brown when moist with disseminated lime and is moderately alkaline. The subsoil ranges from dark grayish brown to light brownish-gray and extends to a depth of approximately 49 inches. Bolsa soils series are used for urban and for growing irrigated truck crops, lima beans and dryland barley. Vegetation in uncultivated areas is annual grasses and forbs.

2.2.2 Tidal Flats

Tidal Flats are nearly level areas adjacent to bays and lagoons along the coast. Periodically they are covered by tidal overflow. Some of the higher areas are only covered during very high tides. Tidal flats are stratified clayey to sandy deposits. They are poorly drained and high in salts.

[1] SCS is now known as the National Resource Conservation Service or NRCS.

Both of the above soil units are identified as hydric in the Natural Resources Conservation Service's, *National Hydric Soils List*[2]. It is important to note that under the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0[3], the presence of mapped hydric soils is no longer dispositive for the presence of hydric soils. Rather, the presence of hydric soils must now be confirmed in the field independent of previous mapping.

2.3 Botanical Resources

A site specific survey program was designed to accurately document the botanical resources for each of the four properties, which consisted of (1) a literature review, (2) review of data bases and previously compiled lists of target special-status plant species and sensitive vegetation communities that could occur on site, (3) general field reconnaissance surveys, (4) vegetation mapping in accordance with the vegetation alliances set forth in *A Manual of California Vegetation, Second Edition* (MCV II)[4], and (5) focused surveys for special-status plants, Scientific nomenclature and common names for plant species referred to in this report follow recently published (2012) second edition of the Jepson Manual.[5]

In addition, prior to conducting fieldwork, a review of the latest CNPS inventory and a review of the most recent edition of the California Natural Diversity Database (CNDDB) was conducted for the USGS 7.5' Los Alamitos, Long Beach, Seal Beach and San Pedro quadrangles to evaluate which special-status species might have the potential to occur on site. Site reconnaissance was conducted in such a manner as to allow inspection of all areas of potential habitat on the four properties by direct observation. Observations of all plants were recorded in field notes during each visit. A complete list of plant species observed within the Project Site is provided in the Floral Compendium included as Appendix A.

2.3.1 General Surveys

Table 2-1 summarizes the numerous visits to conduct focused and general botanical surveys as well as jurisdictional delineation efforts on the four properties. During all of these visits general botanical surveys were conducted, which provided for documentation of native and non-native plants as well as occurrences that range from common to uncommon across the sites. Collection of such data provides for a more accurate evaluation of the botanical resources on the sites.

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[2] 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.

[3] U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Ed. J.S. Wakeley, R.W. Lichevar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center and Engineering Laboratory.

[4] Sawyer, John O., Todd Keeler-Wolf, and Julie Evens. 2009. *A Manual of California Vegetation, Second Edition*, California Native Plant Society.

[5] Baldwin, Bruce G., et al, (Eds.) 2012. *The Jepson Manual, Vascular Plants of California.* University of California Press. P. 1471.

2.3.2 Focused Surveys

Focused botanical surveys were initiated for the Pumpkin Patch site in 2011 and also conducted in 2013 and 2016. Focused botanical surveys for the Synergy and LCWA sites were conducted in 2015 and 2016, with a significant focus on southern tarplant during 2015 because of the substantial numbers observed germinating early in the season. These surveys were conducted in accordance with CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*.[6] Surveys and jurisdictional delineations were performed on the City's property by AECOM, Tidal Influence, and VCS Consulting as set forth in the 2016 *Biological Resources Assessment and Wetland Delineation: Southeast Area Development and Improvement Plan.*[7]

2.3.3 Vegetation Mapping

As noted, vegetation mapping was conducted using the alliances as outlined in the MCV II. To the extent possible, "membership rules" for alliances and stands were followed; however, in some cases, further site-specific refinement has been added to more accurately characterize the vegetation on the properties. Where applicable, guidelines set forth in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*[8] were incorporated in the vegetation mapping efforts. Land-use/land-cover types not included in the MCV II have been added due for example to the history of disturbance on the Pumpkin Patch site and oil extraction associated with the Synergy Oil Field. Additions include land-use/land-cover categories such as disturbed and developed. Furthermore, certain unvegetated aquatic areas such as mud flats are not included in the MCV II and have also been added. The City Property site has been subject to recent surveys in support of the Southeast Area Development and Improvement Plan (SEADIP), which included vegetation mapping. Because the SEADIP report was completed in 2016, this report incorporates the results directly, rather than attempting to modify the SEADIP report to be consistent with the MCV II.

2.4 Wildlife Resources

Relative to previous surveys, prior to conducting earlier fieldwork, a review of the CNDDB was conducted for the USGS 7.5' Los Alamitos, Long Beach, Seal Beach and San Pedro quadrangles to evaluate what special-status species might have the potential to occur on site. Wildlife species were evaluated and detected during field surveys by sight, call, tracks, and scat. Site reconnaissance for each site was conducted in such a manner as to allow inspection of the properties by direct observation, including the use of binoculars. Observations of physical evidence and direct sightings of wildlife were recorded in field notes during each visit. A complete list of wildlife species observed or are expected to occur within the project site is provided in the Faunal Compendium

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[6] California Natural Resources Agency: California Department of Fish and Game. November 24, 2009. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*.
[7] Placeworks and VCS Environmental. 2016. *Biological Resources Assessment and Wetland Delineation: Southeast Area Development and Improvement Plan*. Prepared for the City of Long Beach.
[8] California Natural Resources Agency: California Department of Fish and Game. November 24, 2009. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*.

included as Appendix B. Scientific nomenclature and common names for vertebrate species referred to in this report follow Collins[9] for amphibians and reptiles, Jones, et al.[10] for mammals, and AOU Checklist[11] for birds. The methodology (including any applicable USFWS survey protocols) utilized to conduct the focused surveys or the habitat assessments of each listed or special-status animal are discussed below.

2.4.1 General Surveys

2.4.1.1 Birds

During general surveys of each of the Synergy Oil Field, Pumpkin Patch site, and LCWA site, birds were identified opportunistically. Birds were detected by both direct observation and by vocalizations, and were recorded in field notes.

2.4.1.2 Mammals

During general surveys of each of the Synergy Oil Field, Pumpkin Patch site, and LCWA site, mammals were identified incidentally. Mammals were detected both by direct observation and by the presence of diagnostic sign (i.e. tracks, burrows, scat, etc.).

2.4.1.3 Reptiles and Amphibians

During general surveys of each of the Synergy Oil Field, Pumpkin Patch site, and LCWA site, reptiles and amphibians were identified. Habitats were examined for diagnostic reptile signs, which include shed skins, scat, tracks, snake prints, and lizard tail drag marks. All reptiles and amphibian species observed, as well as diagnostic sign, were recorded in field notes.

2.4.2 Focused Surveys for Fairy Shrimp

As summarized in Table 2-1, focused surveys for listed fairy shrimp were conducted on the Pumpkin Patch site during 2011 – 2013 [Appendices C and D: Fairy Shrimp Reports]. The surveys were repeated and completed during the 2016/2017 wet season. [Appendix F]. The common versatile fairy shrimp (*Branchinecta lindahli*) was detected within a seasonal depression[12] on the site. Surveys were conducted in compliance with the USFWS' *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the*

[9] Collins, J. T. 1990. Standard common and scientific names for North American amphibians and reptiles. Herpetological Circular (25), 4th ed. Society for the Study of Amphibians and Reptiles, Lawrence, Kansas.
[10] Jones, J. K., R. S. Hoffman, D. W. Rice, C. Jones, R. S. Baker, and M. D. Engstrom. 1992. Revised checklist of North American mammals North of Mexico, 1991. Occasional Papers The Museum Texas Tech University (146):1-23.
[11] American Ornithologists' Union. 1998. Checklist of North American Birds, Seventh Edition.
[12] The seasonal depression is described in full detail in the *Jurisdictional Delineation for the Los Cerritos Wetland and Oil Consolidation Project*, enclosed as Appendix E.

Endangered Species Act for the Listed Vernal Pool Branchiopods[13] and USFWS *Survey Guidelines for the Listed Large Branchiopods dated May 31, 2015.*[14]

2.4.3 Focused Surveys for Burrowing Owl

As summarized in Table 2-1, focused surveys for burrowing owl were conducted on the Synergy Oil Field, Pumpkin Patch site, and LCWA site in 2015, and on all four properties in 2016/2017.[15] GLA biologists conducted focused surveys for the burrowing owl for all suitable habitat areas within the properties. Surveys were conducted in accordance with survey guidelines described in the 2012 CDFG Staff Report on Burrowing Owl Mitigation. For breeding season surveys, the guidelines stipulate that four focused survey visits should be conducted between February 15 and July 15, with the first visit occurring between February 15 and April 15. The remaining three visits should be conducted three weeks apart from each other, with at least one visit occurring between June 15 and July 15. For non-breeding season surveys, the guidelines stipulate that at least four focused survey visits be conducted between July 16 and February 14, spread evenly, throughout the nonbreeding season. As recommended by the survey guidelines, the survey visits were conducted between morning civil twilight and 10:00 AM. Weather conditions during the surveys were conducive to a high level of bird activity.

Surveys were conducted by walking meandering transects throughout areas of suitable habitat. Transects were spaced between 7 m and 20 m apart, adjusting for vegetation height and density, in order to provide adequate visual coverage of the survey areas. At the start of each transect, and at least every 100 m along transects, the survey area was scanned for burrowing owls using binoculars. All suitable burrows were inspected for diagnostic owl sign (e.g., pellets, prey remains, whitewash, feathers, bones, and/or decoration) in order to identify potentially occupied burrows. The results of the burrowing owl surveys are documented in Section 4.0 of this report.

2.4.4 Focused Surveys for Belding's Savannah Sparrow

As summarized in Table 2-1, focused surveys for Belding's savannah sparrow in were conducted on the Synergy Oil Field in 2017. A technical memorandum documenting the results in included as Appendix G. The focused surveys were conducted by GLA senior staff including, Senior Biologist Tricia Campbell, Senior Wildlife Biologist Jeff Ahrens and Senior Biologist Tony Bomkamp. Surveys were conducted between April 30 and May 25, 2017. The 76.5-acre site was roughly divided into two survey areas, including 1) the southern portion of the site that included the "Berm" that demarcates the southern edge of Steamshovel Slough and areas south of the Berm and 2) Steamshovel Slough north of the Berm. Because two of the primary goals of the surveys were to establish the approximate carrying capacity and the extent of the areas used by BSS during the breeding season, a variety of factors were used to determine potential territories, following Zembal:

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[13] *USFWS. 1996. Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods.*

[14] *USFWS. May 31, 2015. Survey Guidelines for the Listed Large Branchiopods.*

[15] Permission was granted by the City to conduct surveys on the City Property for the 2016/2017 non-breeding season.

Manifestation of territoriality was through their singing, scolding, extended perching together of mates, nest building, feeding young, aerial chases, and prolonged posting under certain circumstances. Aerial chases that were straight line indicated a single territory with the bird being chased leaving the area. Aerial chases that were circular often indicated two territories with the bird being chased holding its ground once removed from the original site of confrontation.[16]

Prior to beginning the surveys on April 30, 2017, the site was monitored for the presence of the other subspecies of wintering or migrant savannah sparrows and surveys were not initiated until the wintering or migrant sparrows had departed. Surveys were started at or near dawn to increase detectability[17] and each survey area was walked slowly and both visual and vocal contacts were recorded, including the behaviors referenced above.

2.5 Jurisdictional Delineation

The results of the jurisdictional delineation prepared for the project are provided in a stand-alone report, enclosed as Appendix E. The methodology for determining the presence and limits of wetland areas followed the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual[18] (Wetland Manual) and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (Arid West Region Manual).[19] While in the field, the limits of Corps jurisdiction were recorded onto a 200-scale color aerial photograph using visible landmarks or mapped using GPS Technology. Other data were recorded onto wetland data sheets.

While in the field, the limits of CDFW jurisdiction were recorded onto a 200-scale color aerial photograph using visible landmarks or mapped using GPS Technology. Other data were recorded onto wetland data sheets.

The limits of wetlands as defined under the California Coastal Act (CCA) were recorded onto a 200-scale color aerial photograph using visible landmarks or mapped using GPS Technology. Other data were recorded onto wetland data sheets.

3.0 REGULATORY SETTING

The proposed project is subject to state and federal regulations associated with a number of regulatory programs. These programs often overlap and were developed to protect natural

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[16] Zembal, Richard, S. Hoffman, and R. Patton. 2015. A Survey of the Belding's Savannah Sparrow (*Passerculus sandwichensis beldingi*) in California, 2015.

[17] Massey, Barbara. 1977. *A Census of the Breeding Population of the Belding's Savannah Sparrow in California, 1977.*

[18] Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.

[19] U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), ed. J.S. Wakeley, R.W. Lichevar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

resources, including state- and federally-listed plants and animals; aquatic resources including rivers and creeks, ephemeral streambeds, wetlands, and areas of riparian habitat; other special-status species which are not listed as threatened or endangered by the state or federal governments; and other special-status vegetation communities.

3.1 State and/or Federally Listed Plants and Animals

3.1.1 State of California Endangered Species Act

California's Endangered Species Act (CESA)[20] defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." The State defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a "threatened species." Candidate species are defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the FESA, CESA does not list invertebrate species.

Sections 2080 through 2085 of the CESA[14] addresses 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." Under the CESA, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the state to allow "take" require permits or memoranda of understanding and can be authorized for endangered species, threatened species, or candidate species for scientific, educational, or management purposes and for take incidental to otherwise lawful activities. Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

3.1.2 Federal Endangered Species Act

The FESA of 1973[21] defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any

[20] California Fish and Game Code §§ 2080-2085.
[21] 16 U.S. Code § 1531 et seq.

species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA[22] it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA[23]: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification that result in injury to, or death of species as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a Federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

In addition to the prohibitions on the take of listed species, the Service is also required to designate areas of "Critical Habitat" for species listed under the FESA. The FESA defines critical habitat as "the specific areas within the geographical area occupied by the species, at the time it is listed, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and specific areas outside the geographical area occupied by the species at the time it is listed that are determined by the Secretary to be essential for the conservation of the species." A designation does not set up a preserve or refuge and only applies to situations where Federal funding, permits, or projects are involved.

3.1.3 Fish and Wildlife Coordination Act

FWCA Authorizes the Secretaries of Agriculture and Commerce to provide assistance to Federal and State agencies in order to protect and increase the supply of wildlife and wildlife resources, as well as to study the effects of domestic sewage, trade wastes, and other pollution on wildlife.

The Act's purposes are to recognize the vital contribution of U.S. wildlife resources, and their increasing public interest and significance. FWCA requires that wildlife conservation be given equal consideration to other features of water-resource development programs through planning, development, maintenance and coordination of wildlife conservation and rehabilitation. Wildlife and wildlife resources are defined by the Act to include: birds, fish, mammals and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent.

The Secretary of the Interior (Secretary) is authorized to provide assistance to, and cooperate with, federal, state, and public or private agencies and organizations in:

- developing, protecting, rearing and stocking all species of wildlife, resources thereof, and their habitat;
- controlling losses from disease or other causes;
- minimizing damages from overabundant species;

[22] 16 U.S. Code § 1538(a)(1)(B)
[23] 16 U.S. Code § 1532(3)(18)

- providing public shooting and fishing areas, including easements across public lands; and
- carrying out other necessary measures.

Additionally, the Secretary is authorized to make surveys and investigations of the wildlife of the public domain, including lands and waters or interest acquired or controlled by an agency of the U.S., and to accept donations of land and contributions of funds in furtherance of the purposes of this Act. Several provisions incorporate the Secretary's authorities relating to migratory birds and state agency authorities concerning fish and wildlife resources. Coordination generally culminates in a report to the requesting agency detailing the results of habitat surveys and other data collection efforts, including recommendations for the project moving forward. The results and recommendations are included in reports to Congress, authorization requests and other project planning documents.

To ensure fish and wildlife resources receive equal consideration to other features of water resource development projects, the FWCA requires Federal agencies involved with such projects to first consult with the U.S. Fish & Wildlife Service and the respective state fish and wildlife agencies regarding the potential impacts of the project on fish and wildlife resources. The results of the consultation are not binding, but the Federal agency must strongly consider input received during consultation to prevent loss or damage to wildlife resources and provide for any measures taken to mitigate such impacts.

Whenever the waters or channel of a body of water are modified by a Federal agency, or by any other entity where a Federal permit is required, adequate consideration must be made for the conservation, maintenance and management of wildlife resources and habitat. The use of the waters, land or interests for wildlife conservation must be in accordance with plans approved jointly by: the head of the department or agency exercising primary administration; the Secretary; the head of the state agency exercising administration of the wildlife resources.

The Secretary, through the Fish and Wildlife Service and the U. S. Bureau of Mines, is further authorized to make investigations to determine the effects of domestic sewage, mine, petroleum, and industrial wastes, erosion silt, and other polluting substances on wildlife, and to make reports and recommendations to Congress.

As a collaborative effort, Federal agencies, the Service and state fish and wildlife agencies must develop measures to protect, develop, and improve wildlife and their habitat. Reports or decision-making documents subsequently prepared by the requesting Federal agency must include the recommendations of the Service and the affected state(s) for protecting fish and wildlife. Where possible, the agency must incorporate these recommendations in the project plans. The constructing, licensing, or permitting federal agency is to include in the project plans such justifiable means and measures as it finds should be adopted to obtain maximum overall project benefits.

In order to comply with the requirements laid out in the Act, Federal agencies must first determine whether a proposed activity will result in the control or modification of a body of water. Typical actions that would fall under the jurisdiction of the Act include: discharges of pollutants, including industrial, mining, and municipal wastes or dredged and fill material into a

body of water or wetlands; and projects involving construction of dams, levees, impoundments, stream relocation, and water-diversion structures.

3.1.4 State and Federal Take Authorizations for Listed Species

Federal or state authorizations of impacts to or incidental take of a listed species by a private individual or other private entity would be granted in one of the following ways:

- Section 7 of the FESA stipulates that any federal action that may affect a species listed as threatened or endangered requires a formal consultation with USFWS to ensure that the action is not likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of designated critical habitat. 16 U.S.C. 1536(a)(2).
- In 1982, the FESA was amended to give private landowners the ability to develop Habitat Conservation Plans (HCP) 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.
- Sections 2090-2097 of the California Endangered Species Act (CESA) require that the state lead agency consult with CDFW on projects with potential impacts on state-listed species. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed as well as state-listed species. In certain circumstances, Section 2080.1 of the California Fish and Game Code allows CDFW to adopt the federal incidental take statement or the 10(a) permit as its own based on its findings that the federal permit adequately protects the species under state law.

3.1.5 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act)[24] is the primary law governing marine fisheries management in U.S. federal waters. Key objectives of the Magnuson-Stevens Act are to:

- Prevent overfishing
- Rebuild overfished stocks
- Increase long-term economic and social benefits
- Ensure a safe and sustainable supply of seafood

Under the Magnuson-Stevens Act all fishery management actions must comply with the Magnuson-Stevens Act as well as with other applicable laws, including the National Environmental Policy Act, Regulatory Flexibility Act, Endangered Species Act, Coastal Zone Management Act, and the Paperwork Reduction Act. The Operational Guidelines provide

[24] http://www.nmfs.noaa.gov/sfa/laws_policies/operational_guidelines/index.html

guidance on the development, review, and implementation of federal fishery management plans, amendments, and regulations. This guidance reflects and builds on the progress that NOAA Fisheries and the regional fishery management councils (councils) have made towards fostering a cooperative and accessible public process for managing our nation's fisheries since implementation of the Fishery Conservation and Management Act in 1976.

The 2015 Operational Guidelines supersede all other versions produced by NOAA Fisheries and the councils. Unlike prior versions of the Operational Guidelines (1997, draft 2005), this approach sets forth high-level goals and outlines objectives for achieving those goals. The core of the document consists of 7 guiding principles for NOAA Fisheries and council partnership that apply to all actions taken to develop, review, and implement Magnuson-Stevens Act fishery management actions. These guidelines recognize the importance of Regional Operating Agreements as the basis for how those guiding principles are implemented and how the regions and councils describe their own processes and procedures. The appendices contain additional detailed information on terminology, a description of the process, discussion of other applicable laws and the rulemaking process, and links to additional resources.

3.2 Section 404 of Clean Water Act and Section 10 of the Rivers and Harbors Act

3.2.1 Section 404 of the Federal Clean Water Act

Pursuant to Section 404 of the Clean Water Act, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in Corps regulations at 33 CFR Part 328.3(a) as:

> *(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;*
> *(2) All interstate waters including interstate wetlands;*
> *(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect foreign commerce including any such waters:*
> *(i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or*
> *(ii) From which fish or shell fish are or could be taken and sold in interstate or foreign commerce; or*
> *(iii) Which are used or could be used for industrial purpose by industries in interstate commerce...*
> *(4) All impoundments of waters otherwise defined as waters of the United States under the definition;*
> *(5) Tributaries of waters identified in paragraphs (a) (1)-(4) of this section;*
> *(6) The territorial seas;*
> *(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)-(6) of this section.*

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the OHWM which is defined at 33 CFR 328.3(e) as:

> *...that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.*

3.2.1.1 Wetland Definition Pursuant to Section 404 of the Clean Water Act

The term “wetlands” (a subset of “waters of the United States”) is defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support...a prevalence of vegetation typically adapted for life in saturated soil conditions." In 1987 the Corps published a manual to guide its field personnel in determining jurisdictional wetland boundaries. The methodology set forth in the 1987 Wetland Delineation Manual and the Arid West Supplement generally require that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the manual and Supplement provide great detail in methodology and allow for varying special conditions, a wetland should normally meet each of the following three criteria:

more than 50 percent of the dominant plant species at the site must be typical of wetlands (i.e., rated as facultative or wetter in the National Wetland Plant List);

soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and

Whereas the 1987 Manual requires that hydrologic characteristics indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year, the Arid West Supplement does not include a quantitative criteria with the exception for areas with “problematic hydrophytic vegetation”, which require a minimum of 14 days of ponding to be considered a wetland.

3.2.2 Section 10 or the 1899 Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act of 1899 requires that regulated activities conducted below the Ordinary High Water (OHW) elevation of navigable waters of the United States be approved/permitted by the U.S. Army Corps of Engineers. Regulated activities include the placement/removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils/sediments or modification of a navigable waterway. Navigable waters of the United States are those waters of the U.S. that are subject to the ebb and flow of the tide shoreward to the mean high water mark and/or are presently used, or have been used in the past or may be susceptible to use to transport interstate or foreign commerce [see attached list]. Navigable waters of the U.S. are not necessarily the same as state navigable waterways. Tributaries and backwater areas associated with navigable waters of the U.S., and

located below the OHW elevation of the adjacent navigable waterway, are also regulated under Section 10.

3.3 California Coastal Commission (CCC)

The CCA protects important coastal biological resources including wetlands, riparian habitats and other areas defined as Environmentally Sensitive Habitat Areas (ESHA) by the CCC in accordance with the Coastal Act. The Coastal Act Section 30107.5 defines an ESHA as:

> *…any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.*

Each property was evaluated for special-status habitats as well as wetlands defined under the CCA. As discussed immediately below and summarized in Table 4-4, there are areas of overlap between certain habitat categories such that careful distinctions are necessary when evaluating each as potential wetland areas. Designation as ESHA is determined on a site by site basis by the CCC. Other non-wetland riparian areas may be so limited in size, degraded, or isolated that they do not meet the minimum threshold under the Coastal Act. Each of these is addressed below.

3.3.1 Wetlands as Defined by the Coastal Act

Pursuant to the California Coastal Act (California Public Resources Code Section 30233), the CCC regulates the diking, filling, or dredging of wetlands within the coastal zone. The Coastal Act Section 30121 defines "wetlands" as land "*which may be covered periodically or permanently with shallow water.*" The 1981 CCC Statewide Interpretive Guidelines state that hydric soils and hydrophytic vegetation, "*are useful indicators of wetland conditions, but the presence or absence of hydric soils and/or hydrophytes alone are not necessarily determinative when the Commission identifies wetlands under the Coastal Act. In the past, the Commission has considered all relevant information in making such determinations and relied upon the advice and judgment of experts before reaching its own independent conclusion as to whether a particular area will be considered wetland under the Coastal Act. The Commission intends to continue to follow this policy.*"

The Commission's wetland definition, taken from the California Code of Regulations Title 14, states:

> *Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some*

time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats (14 CCR Section 13577).

The presence of any one of three wetland indicators (hydrology, hydrophytes or hydric soils) potentially qualifies an area as a wetland, pursuant to the CCC's definition. Furthermore, the CCC establishes the upland limit of a wetland as:

> *(1) the boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic or xerophytic cover*
> *(2) the boundary between soil that is predominantly hydric and soil that is predominantly non-hydric; or*
>
> *(3) in the case of wetlands without vegetation or soils, the boundary between land that is flooded or saturated at some time during years of normal precipitation, and land that is not* (14 CCR Section 13577).

The Commission's determination of the presence of a "One Parameter Wetland" typically follows the methods contained U.S. Army Corps of Engineers 1987 Wetland Delineation Manual[25] (Wetland Manual) and more recently, the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (AWS v2.0)[26]**,** which for federal wetlands requires the presence of wetlands hydrology, hydric soils, and a predominance of hydrophytic vegetation. As noted, while the Commission relies on the federal manuals to establish the presence of any of the three parameters, typically the presence of a single parameter (e.g., a predominance of wetland vegetation) is sufficient for the Commission to make a presumptive finding for the presence of wetlands.

The locations of all wetlands potentially subject to CCC jurisdiction are provided on Exhibits 5C, 5E, and 5F.

3.3.2 Riparian Areas Defined by the Coastal Act

The 1981 CCC Statewide Interpretive Guidelines defines riparian habitats as follows:

> *A "riparian habitat" is an area of riparian vegetation. This vegetation is an association of plant species which grows adjacent to freshwater watercourses, including perennial and intermittent streams, lakes, and other bodies of freshwater.*

The project site includes areas of riparian habitat that meet the CCA definition of wetland, as well as areas of riparian habitat that do not meet the CCA definition of wetland.

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[25] Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.
[26] U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. Ed. J.S. Wakeley, R.W. Lichevar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

3.4 Federally Designated Special-Status Species

Within recent years, the USFWS instituted changes in the listing status of candidate species. Former C1 (candidate) species are now referred to simply as candidate species and represent the only candidates for listing. Former C2 species (for which the USFWS had insufficient evidence to warrant listing) and C3 species (either extinct, no longer a valid taxon or more abundant than was formerly believed) are no longer considered as candidate species. Therefore, these species are no longer maintained in list form by the USFWS, nor are they formally protected. However, some USFWS field offices have issued memoranda stating that former C2 species are to be considered Federal Species of Concern (FSC). This term is employed in this document, but carries no official protections. All references to federally-protected species in this report (whether listed, proposed for listing, or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS. For this report the following acronyms are used for federal special-status species:

- FE Federally listed as Endangered
- FT Federally listed as Threatened
- FPE Federally proposed for listing as Endangered
- FPT Federally proposed for listing as Threatened
- FC Federal candidate species (former C1 species)
- FSC Federal Species of Concern (former C2 species)

3.5 State-Designated Special-Status Species

Some mammals and birds are protected by the State as Fully Protected (SFP) mammals or Fully Protected birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California Species of Special Concern (SPOC) are species designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFW's CNDDB project. Informally listed taxa are not protected, but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites.

For this report the following acronyms are used for State special-status species:

- SE State-listed as Endangered
- ST State-listed as Threatened
- SR State-listed as Rare
- SCE State candidate for listing as Endangered
- SCT State candidate for listing as Threatened
- SFP State Fully Protected
- SP State Protected
- CSC California Special Concern Species

3.6 California Rare Plant Rank

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. The *California Native Plant Society's Inventory of Rare and Endangered Plants of California* separates plants of interest into six categories. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California (Tibor 2001). The list serves as the candidate list for listing as threatened and endangered by CDFW. CNPS and CDFW have jointly assigned five California Rare Plant Ranks (CRPR), which are categories of rarity that are summarized in Table 3-1.

Table 3-1. California Rare Plant Ranks 1, 2, 3, & 4, and Threat Code Extensions.

CRPR List	Comments
List 1A – Presumed Extinct in California and Either Rare or Extinct Elsewhere	Thought to be extinct in California and either rare or extinct elsewhere based on a lack of observation or detection for many years.
List 1B – Rare or Endangered in California and Elsewhere	Species, which are generally rare throughout their range that are also judged to be vulnerable to other threats such as declining habitat.
List 2A – Presumed Extinct in California, More Common Elsewhere	Species thought to be extinct in California but more common outside of California
List 2B - Rare or Endangered in California, More Common Elsewhere	Species, which are generally rare in California but more common outside California.
List 3 – Need More Information	Species that are thought to be rare or in decline but CNPS lacks the information needed to assign to the appropriate list. In most instances, the extent of surveys for these species is not sufficient to allow CNPS to accurately assess whether these species should be assigned to a specific list. In addition, many of the List 3 species have associated taxonomic problems such that the validity of their current taxonomy is unclear.
List 4 – Plants of Limited Distribution	Species that are currently thought to be limited in distribution or range whose vulnerability or susceptibility to threat is currently low. In some cases, as noted above for List 3 species above, CNPS lacks survey data to accurately determine status in California. Many species have been placed on List 4 in previous editions of the "Inventory" and have been removed as survey data has indicated that the species are more common than previously thought. CNPS recommends that species currently included on this list should be monitored to ensure that future substantial declines are minimized.
Extension	**Comments**
.1 – Seriously endangered in California	Species with over 80% of occurrences threatened and/or have a high degree and immediacy of threat.
.2 – Fairly endangered in California	Species with 20-80% of occurrences threatened.
.3 – Not very endangered in California	Species with <20% of occurrences threatened or with no current threats known.

3.6 Vegetation Alliance Rankings

In addition to the California Rare Plant Rank noted above, the CNDDB also ranks vegetation alliances relative to both rarity and threat following the NatureServe's Heritage Program methodology defined for Natural Community Conservation Ranks as set forth below:

Global and State Ranks

G1S1: *Fewer than 6 viable occurrences worldwide/statewide and/or up to 518 hectares*
G2S2: *6-20 viable occurrences worldwide/statewide and/or up more than 518-2590 hectares*
G3S3: *21-100 viable occurrences worldwide/statewide and/or more than 2590-12,950 hectares*
G4S4: *Greater than 100 viable occurrences worldwide/statewide and/or more than 12,950 hectares*
G5S5: *Demonstrably secure because of its worldwide/statewide abundance*

Additional Threat Ranks

0.1: *Very threatened*
0.2: *Threatened*
0.3: *No current threat known*

Alliances with a designation of G1 through G3 are considered rare and threatened throughout their range while alliances with rankings of S1 through S3 are considered rare and threatened in California. A ranking of G4S3 would be considered secure outside California but rare and threatened in California.

4.0 RESULTS

4.1 Vegetation Mapping and Surveys

GLA biologists conducted mapping of vegetation associations and other land cover types in 2016 (as summarized in Table 2-1) over each of the Synergy Oil Field, Pumpkin Patch site, and LCWA site. Vegetation associations for the City Property site were obtained via the City of Long Beach. Vegetation maps are provided as Exhibits 4A – 4D. Descriptions of the vegetation associations have been separated into "upland habitats" and "wetland habitats". In some cases, certain vegetation associations include both wetland and non-wetland stands (e.g., mulefat scrub), where the upland/wetland status was based on a predominance of wetland indicator species as well as soils and hydrological conditions. Tables 4-1 through 4-4 summarize the detailed information for each of the four properties, respectively, followed by descriptions for each vegetation alliance on each property.

4.1.1 Synergy Oil Field

The southern portion of the site is an active oil field with a network of roads, pipelines and other oil field-related amenities. The northern portion of the site contains Steamshovel Slough, an area of tidally influenced southern coastal salt marsh, tidal channels, and mud flats. Steamshovel Slough contains no oil operations and is separated from the oil operation areas by an earthen berm. A tide gate near the mouth of the Steamshovel Slough and series of pipes allow tidal water into western portions of the site. As noted above, for purposes of this report, the description of vegetation alliances follow the MCV II. Land cover types lacking vegetation such as mud flats, are not included in MCV II and thus, descriptions for such areas have been included.

Vegetation alliances are depicted on Exhibit 4A and described below in Table 4-1. Table 4-1.1 describes a small amount of off-site vegetation alliances within the City's right-of-way that would be developed for sidewalks. The alliances are broken down by upland and wetland habitats, and also by Phase (see Section 1.2 for a description on the project activities associated with each phase). Much of the central portion of the site contains oil facilities, is not subject to tidal influence, and includes areas that support salt marsh alliances and/or areas with non-native ruderal species. The southern portion of the site lacks tidal influence and contains the highest concentration of oil facilities including pipeline, tank farms, and numerous pads and roads. This area is the most diverse, supporting vegetation alliances often consistent with the presence of wetlands, along with areas of non-native herbaceous plants, goldenbush scrub, and non-native herbs.

Table 4-1. Summary of Vegetation Alliances and Land-Cover Types
Synergy Oil Field

Upland Alliances: Phase 1	*Acres*
Coyote Brush Scrub	0.17
Disturbed/Developed	0.98
Bassia Thicket	1.26
Ice Plant Mats	1.14
Mulefat Thickets	0.94
London Rocket Fields	1.34
Menzie's Golden Bush Scrub	0.07
Annual Non-Native Grassland	3.71
Ornamental	0.67
Unvegetated Flats-Upland	2.94
Yellow Star-Thistle Fields	2.97
Iceplant/Pickleweed	0.40
Phase 1 Upland Alliances Subtotal	16.59
Upland Alliances: Phase 2	
Coyote Brush Scrub	0.24
Disturbed/Developed	21.42
Emory's Baccharis Thickets	0.04

Table 4-1. Summary of Vegetation Alliances and Land-Cover Types Synergy Oil Field	
Ice Plant Mats	1.26
Menzie's Golden Bush Scrub	0.55
Mulefat Thickets	0.39
Annual Non-Native Grassland	4.93
Ornamental	1.63
Pampas Grass Patches	0.20
Yellow Sweet Clover Fields	0.34
Unvegetated Flats-Upland	1.39
Bassia Thicket	0.66
Phase 2 Upland Alliances Subtotal	33.06
Upland Alliances Total	**49.65**
Wetland Alliances: Phase 1	*Acres*
Alkali Heath Flats	*0.13*
California Cordgrass Marsh	*1.38*
Mudflats - Tidal	*0.37*
Parish's Glasswort Patches	*9.20*
Pickleweed Mats	*37.87*
Saltgrass Flats	*1.61*
Shoregrass Flats	*0.30*
Tidal Channel	*3.18*
Unvegetated Flats	*6.04*
Phase 1 Wetland Alliances Subtotal	60.08
Wetland Alliances Phase 2	Acres
Alkali Heath Flats	0.74
Alkali Weed-Saltgrass Flats	0.54
Black Willow	0.14
Cattail Marshes	0.11
Mudflats - Tidal	1.38
Parish's Glasswort Patches	2.77
Pickleweed Mats	14.26
Saltgrass Flats	10.48
Shoregrass Flats	0.22
Unvegetated Flats (Non-Tidal)	9.76
Phase 2 Wetland Alliances Subtotal	40.40
Wetland Alliances Total	**100.48**
Grand Total	**150.13**

Table 4-1.1. Summary of Vegetation and Land-Cover Types Synergy Oil Field (Off-Site in City's Right-of-Way)	
Upland Alliances	*Acres*
Disturbed/Developed	0.65
Annual Non-Native Grassland	0.04
Fountain Grass	0.02
Mulefat Thickets	0.02
Ornamental	0.09
Total	**0.82**

Upland Alliances and Land-Cover Types

***Baccharis pilularis* Shrubland Alliance (Coyote brush scrub) (G5S5) –** consists of a few small scattered patches in upland areas. The patches are dominated by coyote brush (*Baccharis pilularis*) and the understory typically consists of non-native grasses and forbs.

***Baccharis emoryi* Provisional Shrubland Alliance (Emory's baccharis thickets) (G3S2?) –** occurs in disturbed areas with an open canopy of Emory's baccharis (*Baccharis salicina*)[27] with a mix of saltgrass (*Distichlis spicata*) and small-flowered ice plant (*Mesembryanthemum nodiflorum*) in the understory.

***Baccharis salicifolia* Shrubland Alliance (Mulefat Thickets)(G5S4) –** includes all mulefat scrub and disturbed mulefat within the site. This alliance consists of generally small thickets of mulefat (*Baccharis salicifolia*) with understory that varies from location to location but may include one or more of the following species: saltgrass (*Distichlis spicata*), seaside heliotrope (*Heliotropum curassivicum*), small-flowered ice plant, five-horn smotherweed and upland non-native grasses.

***Bassia hyssopifolia* Semi-Natural Herbaceous Stands (Five-horn smotherweed thickets) –** consist of locally dense thickets of the non-native five-horn smotherweed (*Bassia hyssopifolia*), which occur most commonly within the eastern portion of the site. This species is also a common weed as understory in other associations.[28]

***Bromus diandrus,* rubens Semi-Natural Herbaceous Stands (Annual brome grasslands) (Annual Non-Native Grasslands)[29] –** includes grasslands dominated by brome grasses and wild oats (*Avena* spp.); however, they do not include annual grasslands dominated by non-native barleys such as hare barley (*Hordeum murinum* ssp. *leporinum*) and Mediterranean barley (*Hordeum marinum* ssp. *Gussoneanum*) which are common on the eastern upland portion of the

[27] The 2012 Jepson Manual (p. 256) now lists this taxon as *Baccharis salicina*.
[28] The MCV II does not have a description for this alliance, which has been created following the conventions set forth in the MCV II.
[29] Note that two categories of "brome grasslands" have been combined; however, because the MCV II does not include alliances dominated by non-native barley grasses (*Hordeum* spp.) these have been combined into a larger category of "Non-native grasses" as described.

site, forming dense stands mixed with London rocket and tocolote (*Centarea melitensis*). In other scattered locations, non-native grasses that are predominant include red brome, rip gut (*Bromus diandrus*), slender wild oats (*Avena barbata*), smilo (*Stipa miliacea*), as well as locally dense patches of non-native forbs including small-flowered ice plant, five-horn smotherweed, Australia saltbush (*Atriplex semibaccata*), tocalote, London rocket (*Sisymbrium irio*), and summer mustard (*Hirschfeldia incana*).

***Carpobrotus edulis* or Other Ice Plants Semi-Natural Herbaceous Stands (Ice plant mats) –** are common as small patches throughout the site. This alliance is dominated by non-native small-flowered ice plant (*Mesembryanthemum nodiflorum*) and occasionally by the non-native crystalline ice plant (*Mesembryanthemum crystallinum*).

***Centaurea* (*solstitialis, melitensis*) Semi-Natural Herbaceous Stands (Yellow Star Thistle Fields)** – are limited to a single location along the eastern portion of Phase 1. This alliance is dominated by yellow-star thistle (*Centaurea solstitialis*), a non-native invasive species as listed by the California Invasive Plant Council (CalIPC).

***Cortedaria* (*jubata, selloana*) Semi-Natural Herbaceous Stands (Pampas grass patches) –** are dominated by pampas grass (*Cortedaria selloana*).

Disturbed/Developed – is most often associated with areas disturbed by historic oil operations, including existing roads, existing and former oil well sites and other types of infrastructure. Many of these areas are bare or sparsely vegetated soil whereas others are covered by gravels or asphalt-like material (ALM). Vegetation, where it is associated with these areas is essentially all non-native with species such as small flowered ice plant, tocalote (*Centaurea melitensis*) and non-native grasses (*Bromus* spp.).

***Melilotus* (*indicus*, *albus*) Semi-Natural Herbaceous Stands (Sweet Clover Fields) –** are limited to a single location within the Phase 2 area. This alliance is dominated by yellow sweet clover (*Melilotus indicus*) and also includes non-native grasses.

Menziesii's Goldenbush Scrub (G4?S4?) – While limited, Menzie's goldenbush is scattered across much of the site and only lacking in the Steamshovel Slough. This alliance is dominated by Menzie's goldenbush (*Isocoma menziesii*), which is a native shrub that is highly opportunistic and adapted to disturbed areas. In some areas, this has invaded well pads and areas previously used for equipment storage and also along road edges. As it is typically in disturbed areas, there is often a non-native understory that includes small-flowered ice plant and non-native grasses.

***Schinus (molle, terebinthifolius) Myoporum laetum* Semi-Natural Woodland Stands (Pepper tree or Myoporum groves) (Ornamental)[30] –** Because of the history of disturbance associated with the oil field operations, the Synergy Oil Field supports substantial areas of non-native invasive or non-native, and in some cases, invasive trees. Areas mapped as "Ornamental" vary according to location and can include the following species:

[30] The diversity of non-native trees scattered across the site is substantially higher than captured by the MCV II alliance noted above; therefore, the description for this alliance has been expanded to accurately characterize the site.

- Myoporum (*Myoporum laetum*),
- Canary Island Palm (*Phoenix canariensis*)
- Mexican Fan Palm (*Washintonia robusta*),
- Shamel Ash (*Fraxinus uhdei*),
- Bluegum Eucalyptus (*Eucalyptus globulus*),
- Sydney golden wattle (*Acacia longifolia*), and
- Brazilian pepper (*Schinus terebinthifolius*),

***Sisymbrium irio* Semi-Natural Herbaceous Stands (London rocket fields) –** occurs at a single location at the southeast corner of Phase 1, consisting of a near monoculture of the non-native London rocket (*Sisymbrium irio*).[31] This alliance intergrades with yellow-star thistle fields to the north and non-native grasses to the south.

Unvegetated Flats (Upland) – consist of areas with less than five-percent vegetative cover. Unvegetated Flats (Upland) are distinguished from Unvegetated Flats (Wetland), which at a minimum exhibit either wetland hydrology or hydric soils and therefore meet the Coastal Act definition of wetlands. The lack of wetland hydrology was determined through direct observations in the field during data collection associated with the wetland delineation or through review of historic aerial photographs for ponding.

Wetland Alliances and Land-Cover Types

***Arthrocnemum subterminale* Herbaceous Alliance (Parish's Glasswort Patches)(G4S2) -** Parish's glasswort is a plant that is most common in high marsh areas, and the patches dominated by Parish's glasswort (*Arthrocnemum subterminale*, FACW) are common on the berm that demarcates the southern edge of Steamshovel Slough as well as non-tidal areas south of Steamshovel Slough. While this species often forms monocultures, other species that are sometimes associated with it include common pickleweed (*Salicornia pacifica*, OBL), alkali heath (*Frankenia salina*, FACW), saltgrass (*Distichlis spicata*, FAC), shoregrass (*Distichlis littoralis*, FACW), and sea lavender (*Limonium californicum*, FACW).

***Cress truxillensis–Distichlis spicata* Herbaceous Alliance (Alkali weed – saltgrass flats)(G4S4) –** Alkali weed (*Cressa truxillensis*, FACW) occurs as a component in a variety of alliances on the site. There is a single occurrence of this alliance near the southwest corner of the Synergy Oil Field in Phase 2. Dominant plants included saltgrass and alkali weed within a depressional area which also exhibited dead cattails from a wetter period.

***Distichlis littoralis* Herbaceous Alliance (Shoregrass flats)** – Like Parish's glasswort, shore grass is a species most common in high marsh areas and is common in areas above tidal influence such as on the berm that demarcates the limits of Steamshovel Slough. This species is also a common component of the pickleweed mat alliance described below, and most of the shoregrass on the site is included in the pickleweed mat and/or Parish's glasswort alliances.

[31] The MCV II does not have a description for this alliance, which has been created following the conventions set forth in the MCV II.

***Distichlis spicata* Herbaceous Alliance (Saltgrass Flats)(G5S4)** – While saltgrass is common in a variety of alliances in both Phase 1 and Phase 2, this alliance is most common in non-tidal areas south of Steamshovel Slough. Dominant plant species include saltgrass (*Distichlis spicata*), common pickleweed, and shore grass and may also support non-native upland grasses and forbs such as the small-flowered ice plant and five-horn smotherweed.

***Frankenia salina* Herbaceous Alliance (Alkali heath marsh)(G4S3) –** Alkali heath is common in a variety of alliances in both Phase 1 and Phase 2 and is most common with the pickleweed mat alliance described below. In some areas this species forms unbroken stands that constitute a separate alliance. Alkali heath is the dominant species and both saltgrass and common pickleweed may also be present.

Mud Flats – are associated with tidal areas and are unvegetated, lacking cover by emergent plants; however, they are often vegetated only by algal mats.

***Sarcocornia Pacifica*[32] Herbaceous Alliance (Pickleweed Mats) - (Tidal)(G4S3) –** is the most common wetland alliance on the site. Dominant plant species include common pickleweed, alkali heath, saltwort, (*Batis maritima*, OBL), fleshy jaumea (*Jaumea carnosa*, FACW), estuary seablite (*Sueada esteroa*, FACW), shoregrass, sea lavender, Parish's glasswort, and salt grass.

Tidal areas south of the berm which separate Steamshovel Slough from the oil fields are dominated by saltwort and Bigelow's pickleweed (*Salicornia bigelovii*, OBL), with occasional patches of common pickleweed and occasional individuals of sea lavender.

***Salix gooddingii* Woodland Alliance (Black willow thickets)(G4S3) –** Black willow (*Salix gooddingii*) is dominant and in many cases consists of a single large tree that was of sufficient size to be included as a mapping unit. The understory varies substantially throughout the site but that may include one or more of the following species: saltgrass, tall nutsedge (*Cyperus eragrostis*), seaside heliotrope, alkali weed (*Cressa truxillensis*), with non-natives that include Spanish sunflower and curly dock.

***Spartina foliosa* Herbaceous Alliance (California cordgrass marsh)(G4S3.2) –** is within Steamshovel Slough. Cordgrass (*Spartina foliosa*, OBL) is dominant with other species including common pickleweed and saltwort.

Tidal Channels (Tidal) – is within the Steamshovel Slough and area south of the berm, all of which is included in the Phase 1 area.

***Typha domingensis* – Herbaceous Alliance (Cattail Marshes)(G5S5) –** consists of non-tidal fresh water marsh dominated by southern cattail (*Typha domingensis*, OBL). Other species include tall nutsedge, alkali bulrush (*Bolboschoenus maritimus*, OBL), and California bulrush (*Schoenoplectus californicus*, OBL).

[32] Since publication of MCV II, the 2012 Jepson Manual was published, which uses *Salicornia* rather than *Sarcocornia*. This genus is used interchangeably in this report.

Unvegetated Flats – (Wetland) – Unvegetated Flats (Wetland) are common south of the Steamshovel Slough berm. As noted above for Unvegetated Flats (Upland), Unvegetated Flats (Wetland) are distinguished from the upland areas in that at a minimum they exhibit either wetland hydrology or hydric soils and therefore meet the Coastal Act definition of wetlands. The presence of wetland hydrology was determined through direct observations in the field during data collection associated with the wetland delineation or through review of historic aerial photographs for ponding.

4.1.2 Pumpkin Patch

The Pumpkin Patch site and adjoining City right-of-way comprise approximately 7.90 acres. Vegetation alliances are depicted on Exhibit 4B and described below in Table 4-2. The Pumpkin Patch site includes an upper level area with associated slopes plus a lower area that is immediately adjacent to the City Property site. The flat areas of the upper portion of the site have been used for decades as a commercial site with an operating "Pumpkin Patch" in October leading up to Halloween, and then converted to a Christmas tree lot through December. The Pumpkin Patch and Christmas tree lot are staged on the southwest portion of the site and the remainder is used for parking, which is facilitated through striping of parking stalls across the remainder of the upper flat area. The lower portion of the site in the northeast is not subject to commercial activities. This area contains one oil well surrounded by pickleweed mats and unvegetated flats. The Pumpkin Patch site and adjoining City right-of-way contain three vegetation alliances and two additional land-use/land cover types. The City right-of-way comprises almost exclusively disturbed areas, with a small patch of ornamental vegetation in the eastern corner.

Table 4-2. Summary of Vegetation and Land-Cover Types
Pumpkin Patch Site

Upland Alliances	*Acres*
Disturbed/Developed	6.45
Annual Non-Native Grassland	0.02
Ice Plant Mats	0.59
Ornamental (Eucalpytus Groves)	0.03
Upland Alliances Subtotal	*7.09*
Wetland Alliances	*Acres*
Pickleweed Mats	0.55
Unvegetated Flats (Wetland)	0.26
Wetland Alliances Subtotal	*0.81*
Grand Total	**7.90**

Upland Alliances and Land-Cover Types

Disturbed/Developed – accounts for the vast majority of the site due to the commercial uses, including vehicle parking, and exhibits highly compacted soil. Where there is vegetation, it is sparse and consists of non-natives such as small flowered ice plant, tocalote, five-horn

smotherweed and yellow sweet clover. Following the 2017 wet season, a small amount of southern tarplant and salt-marsh sand spurrey (*Spergularia marina*) were present within two seasonal depressions located within the disturbed/developed area.

***Bromus diandrus, rubens* Semi-Natural Herbaceous Stands (Annual brome grasslands) (Non-Native Grasslands) –** The non-native grasslands are dominated by ripgut brome (*Bromus diandrus*), which is very dense due to the exclusion of other species.

***Carpobrotus edulis* or Other Ice Plants Semi-Natural Herbaceous Stands (Ice plant mats) –** are common at the northeast and southwest portions of the site, above the lowland area. This alliance is dominated by non-native small-flowered ice plant with some emergent non-native grasses, primarily red brome.

Eucalyptus (*globulus*) Semi-Natural Woodland Stands (Eucalyptus groves) – occur at the extreme northeast corner of the site. The area exhibits a mix of mature eucalyptus trees with seedlings in the understory along with non-native grasses and small-flowered ice plant.

Wetland Alliances and Land-Cover Types

***Sarcocornia Pacifica* Herbaceous Alliance (Pickleweed Mats)(G4S3) –** The lower portion of the site in the northeast area adjacent to the City Property site supports common pickleweed and shoregrass (*Distichlis littoralis*) as dominant species. Other species present include saltgrass (*Distichlis spicata*), fleshy jaumea (*Jaumea carnosa*), and sea lavender (*Limonium californicum*).

Unvegetated Flats – (Wetland) – Unvegetated Flats (Wetland) are interspersed with the pickleweed mats and while unvegetated, these areas exhibit either wetland hydrology and/or hydric soils. Levels of disturbance vary from limited to substantial due to historic oil field operations. Such areas typically exhibit saline or alkaline soils; however, they do not exhibit characteristics of salt pannes.

4.1.3 LCWA Site

The LCWA site consists of approximately four developable acres that are used as a storage yard. This site is highly disturbed with a perimeter of non-native trees with Allepo pine (*Pinus halepensis*) as the most common tree on the site. The site contains only upland vegetation as described below and includes three vegetation alliances and one additional land cover type. Vegetation alliances are depicted on Exhibit 4C and described below in Table 4-3.

Table 4-3. Summary of Vegetation and Land-Cover Types LCWA Site	
Upland Alliances	*Acres*
Disturbed/Developed	3.11
Mulefat Thickets	0.10
Annual Non-Native Grassland	0.26
Ornamental (Allepo Pine Stands)	0.60
Total	**4.07**

Upland Alliances and Land-Cover Types

Disturbed/Developed – accounts for the vast majority of the site and is centered primarily in the middle of the site due to the commercial uses, including vehicle parking and equipment staging. This portion of the site exhibits highly compacted soil, and where there is vegetation it is sparse and consists of non-natives such as small flowered ice plant (*Mesembryanthemum nodiflorum*).

***Baccharis salicifolia* Shrubland Alliance (Mulefat Thickets)(G5S4) –** grows along the disturbed edges of the site. This alliance consists of generally small thickets of mulefat (*Baccharis salicifolia*, FAC) with an understory that consists of small-flowered ice plant, five-horn smotherweed and upland non-native grasses.

***Bromus diandrus,* rubens Semi-Natural Herbaceous Stands (Annual brome grasslands) (Non-Native Grasslands) –** The non-native grasslands support red brome, ripgut, and slender wild oats as well as non-native forbs including small-flowered ice plant, five-horn smotherweed, Australian saltbush and tocalote.

***Pinus halepensis* Semi-natural Woodland (Allepo pine stands)(Ornamental)**[33] – surrounds much of the site with the highest concentration along the eastern and northern portions of the site. Other non-native trees include canary island date palms, Mexican fan palms, and others.

4.1.4 City Property Site

The City's property comprises approximately 33.32 acres and contains a mosaic of wetland alliances mixed with areas disturbed by ongoing oil extraction activities. Vegetation alliances are depicted on Exhibit 4D and described below in Table 4-4. Table 4-4.1 describes "off-site" vegetation alliances within the City's right-of-way along 2nd Street and within the northern and southern segments of the pipeline. The majority of vegetation data was provided by the City of Long Beach; small areas within the parcel boundary that were outside of the City of Long Beach study were filled in by GLA. For purposes of consistency, MCV II alliances have been included in parentheses in the table below.

[33] The diversity of non-native trees scattered across the four sites is substantially higher than captured by the MCV II alliance noted above; therefore, the description for this alliance has been modified and adapted to characterize this property as accurately as possible.

Table 4-4. Summary of Vegetation and Land-Cover Types City Property Site	
Upland Alliances:	*Acres*
Development	1.43
Ruderal Uplands (e.g., *Carpobrotus edulis* or Other Ice Plants Semi-Natural Herbaceous Stands (Ice plant mats and/or *Bassia hyssopifolia* Semi-Natural Herbaceous Stands Five-horn smotherweed thickets)	3.56
Vegetation Free Zone (Unvegetated Flats (Upland))	7.29
Upland Alliances Subtotal	*12.28*
Wetland Alliances:	*Acres*
Mulefat Scrub (*Baccharis salicifolia* Shrubland Alliance (Mulefat Thickets))(G5S4)	1.54
Ruderal Wetlands (*Bassia hyssopifolia* Semi-Natural Herbaceous Stands Five-horn smotherweed thickets). In addition, some areas mapped as Ruderal Wetlands consist of *Cress truxillensis–Distichlis spicata* Herbaceous Alliance (Alkali weed – saltgrass flats)(G4S4)	2.42
Salt Flat (Unvegetated Flats – (Wetland))	0.64
Southern Coastal Brackish Marsh (*Typha domingensis* – Herbaceous Alliance (Cattail Marshes))(G5S5). Includes areas also containing pickleweed mats and saltgrass flats.	6.58
Southern Coastal Salt Marsh (*Sarcocornia Pacifica* Herbaceous Alliance (Pickleweed Mats))(G4S3)	2.21
Southern Willow Scrub (*Salix lasiolepis* Shrubland Alliance (Arroyo willow thickets))(G4S4)	0.28
Alkali Meadow (*Frankenia salina* Herbaceous Alliance (Alkali heath marsh)(G4S3) and or *Distichlis spicata* Herbaceous Alliance (Saltgrass Flats))(G5S4)	7.37
Wetland Alliances Subtotal	21.04
Grand Total	**33.32**

Table 4-4.1. Summary of Vegetation and Land-Cover Types City Property Site (Off-Site in City's Right-of-Way)	
Upland Alliances:	*Acres*
Development	0.04
Annual Non-Native Grassland	0.01
Ornamental	0.05
Ruderal Uplands (e.g., *Carpobrotus edulis* or Other Ice Plants Semi-Natural Herbaceous Stands (Ice plant mats and/or *Bassia hyssopifolia* Semi-Natural Herbaceous Stands Five-horn smotherweed thickets)	0.08
Vegetation Free Zone (Unvegetated Flats (Upland))	0.10
Upland Alliances Subtotal	*0.28*

Table 4-4.1. Summary of Vegetation and Land-Cover Types City Property Site (Off-Site in City's Right-of-Way)	
Wetland Alliances	*Acres*
Mulefat Scrub (Baccharis salicifolia Shrubland Alliance (Mulefat Thickets))(G5S4)	0.03
Ruderal Wetlands (Bassia hyssopifolia Semi-Natural Herbaceous Stands Five-horn smotherweed thickets). In addition, some areas mapped as Ruderal Wetlands consist of Cress truxillensis–Distichlis spicata Herbaceous Alliance (Alkali weed – saltgrass flats)(G4S4)	0.39
Southern Coastal Brackish Marsh (Typha domingensis – Herbaceous Alliance (Cattail Marshes))(G5S5). Includes areas also containing pickleweed mats and saltgrass flats.	0.47
Wetland Alliances Subtotal	*0.89*
Grand Total	**1.17**

Upland Land-Cover Types

Development – includes Shopkeeper Road, a small paved area near the southwest end of the site, area developed for purposes of oil extraction in the central portion of the site, specifically for storage tanks, and the pipeline alignment through the intersection of 2nd Street and Studebaker Road.

Ruderal Uplands – supports a predominance of non-native grasses and forbs. These areas lack both wetland hydrology and hydric soils and therefore are considered uplands even under the California Coastal Act.

Vegetation Free Zones – do not support vegetation; rather these areas are disturbed and consist of roads, oil well pads and other areas necessary for oil field operations.

Wetland Land-Cover Types

Mulefat Scrub – is dominated by mulefat and understory components including non-native grasses and forbs.

Ruderal Wetland – supports a predominance of non-native grasses and forbs that exhibit a wetland indicator status of FAC or wetter. These areas may or may not have wetland hydrology and hydric soils but would presumably be considered wetlands based on a predominance of plants with an indicator status of FAC or wetter.

Salt Flats – are lacking vegetation; however, these areas exhibit ponding during the rainy season and therefore presumably meet the Coastal Act minimum threshold for wetlands.

Southern Coastal Brackish Marsh – is located throughout the site and supports southern cattail, California bulrush, Olney's bulrush (*Schoenoplectus americanus*, OBL), and alkali bulrush.

Southern Coastal Salt Marsh – is located primarily in the southern portion of the site and supports a mosaic of saltmarsh species, including common pickleweed, saltgrass, shoregrass, fleshy jaumea, alkali heath, and sea lavender. Areas on site that support this alliance are non-tidal and are better characterized as pickleweed mats.

Southern Willow Scrub – is located on the western perimeter of the southern coastal brackish marsh in the central portion of the site and supports various species of willow tree, with black willow as the most common species.

Alkali Meadow – is located throughout the site and supports a mosaic of saltmarsh species, saltgrass, shoregrass, fleshy jaumea, alkali heath, and marsh rosemary. Areas on site that support this alliance are non-tidal.

4.2 Special-Status Plants

Table 4-5 provides a summary of all plants evaluated for the project site based on: 1) plants identified by the December 2015 CNDDB as occurring (either currently or historically) in the USGS Los Alamitos, Long Beach, Seal Beach and San Pedro Quadrangles and a review of the the 2001 California Native Plant Society (CNPS) Inventory (CNPS 2001), CNPS 8th edition online inventory (CNPS 2010), and 2) any other special-status plants that are known to occur within the vicinity of the properties based on numerous surveys, or for which potentially suitable habitat occurs on site. Following the table, additional discussions are provided for any special-status plants observed on site or for which potentially suitable habitat occurs on the property.

Table 4-5. Special-status Plants Evaluated for this Report

Species	Status	Habitat	Potential for Occurrence
Aphanisma *Aphanisma blitoides*	Federal: None State: None CRPR: 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. On bluffs and slopes near the ocean in sandy or clay soils.	Not detected during surveys. No potential to occur within project site.
Blochman's dudleya *Dudleya blochmanae ssp. Blochmanae*	Federal: None State: CSC CRPR: 1B.1	Coastal bluff scrub, chaparral, coastal scrub, valley and foothill grassland. Rocky, often clay or serpentinite soils.	No potential to occur on site due to lack of suitable habitat.
California Box-thorn *Lycium californicum*	Federal: None State: None CRPR: 4.2	Coastal bluff scrub, coastal scrub.	Not observed on site, no suitable habitat on project site.
California Orcutt grass *Orcuttia californica*	Federal: FE State: SE CRPR: 1B.1	Vernal pools	Not detected during surveys. No potential to occur on any of the sites due to lack of detection and lack of suitable freshwater vernal pool habitat
Catalina crossosoma *Crossosoma californicum*	Federal: None State: None CRPR: 1B.2	Rocky soils in chaparral and coastal scrub	Not detected during surveys. No potential to occur on site due to lack of suitable habitat.

Species	Status	Habitat	Potential for Occurrence
Chaparral sand verbena *Abronia villosa* var. *aurita*	Federal: None State: None CRPR: 1B.1	Sandy soils in chaparral, coastal sage scrub.	Not detected during surveys. No potential to occur on site due to lack of suitable habitat.
Cliff spurge *Euphorbia misera*	Federal: None State: None CRPR: 2.2	Coastal bluff scrub, coastal scrub, mojavean desert scrub. Rocky soils.	Not detected during surveys. No potential to occur on site.
Coast woolly-heads *Nemacaulis denudata* var. *denudata*	Federal: None State: None CRPR: 1B.2	Coastal dunes.	Not detected during surveys. No potential to occur on site due to lack of suitable habitat.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: None State: None CRPR:1B.1	Playas, vernal pools, marshes and swamps (coastal salt).	Not detected during surveys. Low potential to occur in salt marsh areas in adjacent lowlands.
Coulter's saltbush *Atriplex coulteri*	Federal: None State: None CRPR: 1B.2	Coastal bluff scrub, coastal dunes, coastal sage scrub, valley and foothill grassland. Occurring on alkaline or clay soils.	Not detected during surveys. No potential to occur on site due to lack of suitable habitat.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Federal: None State: None CRPR: 1B.2	Alkaline soils in coastal sage scrub, coastal bluff scrub.	Not detected during surveys. No potential to occur on site due to lack of suitable habitat.
Decumbent goldenbush *Isocoma menziesii var. decumbens*	Federal: None State: None CRPR: 1B.2	Chaparral, coastal scrub (sandy, often in disturbed areas)	Not detected during surveys. Site supports Menziesii's goldenbush; however, this highly distinctive goldenbush variety not observed and does not occur based on lack of detection.
Estuary seablite *Suaeda esteroa*	Federal: None State: None CRPR: 1B.2	Coastal salt marsh and swamps. Occurs in sandy soils.	Occurs on site in tidal salt marsh areas primarily in Steamshovel Slough.
Gambel's water cress *Rorippa gambellii*	Federal: FE State: ST CRPR: 1B.1	Marshes and swamps.	Not detected during surveys. No potential to occur on any of the sites.
Giardner's yampah *Perideridia gairdneri ssp. Gairdneri*	Federal: None State: CSC CRPR: 4.2	Broadleafed upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools. Vernally mesic soils.	Not detected during surveys. No potential to occur on any of the sites.
Golden-spined cereus *Bergerocactus emoryi*	Federal: None State: None CRPR: 2.2	Closed-cone coniferous forest, chaparral, coastal scrub. Sandy soils.	Not detected during surveys. No potential to occur on any of the sites.
Island green dudleya *Dudleya virens ssp. insularis*	Federal: None State: None CRPR: 1B.2	Rocky soils in coastal bluff scrub and coastal scrub.	Not detected during surveys. No potential to occur on site due to lack of suitable habitat.

Species	Status	Habitat	Potential for Occurrence
Los Angeles sunflower *Helianthus nuttallii* ssp. *parishii*	Federal: None State: None CRPR: 1A	Salt and freshwater marshes, historically in Los Angeles, Orange, Riverside and San Bernardino Counties. Still Presumed to be extinct. Plant discovered in Santa Clarita most likely hybrid between *H. nuttallii* and *H. californicus*.	Highly distinct species up to 17 feet tall. Not detected during surveys. No potential to occur on any of the sites based on lack of detection and likelihood that this taxon is extinct.
Lyon's pentachaeta *Pentachaeta lyonii*	Federal: FE State: SE CRPR: 1B.1	Chaparral (openings), coastal sage scrub, valley and foothill grassland.	Not detected during surveys. No potential to occur on site due to lack of suitable Conejo volcanic soils.
Many-stemmed dudleya *Dudleya multicaulis*	Federal: None State: None CRPR: 1B.2	Chaparral, coastal sage scrub, valley and foothill grassland. Often occurring in clay soils.	Not detected during surveys. No potential to occur on any of the sites due to lack of suitable habitat.
Mud nama *Nama stenocarpum*	Federal: None State: None CRPR: 2.2	Vernal pools and freshwater seasonal ponds.	Not detected during surveys. No potential to occur on any of the sites due to lack of detection and lack of suitable freshwater seasonal pond habitat.
Oval-leaved live-forever *Santa Monica Mountains dudleya*	Federal: None State: None CNPS: List 1B.2	Chaparral, coastal scrub. Volcanic and/or rocky soils.	Not detected during surveys. No potential to occur due to lack of suitable habitat.
Palmer's grapplinghook *Harpagonella palmeri*	Federal: None State: CSC CRPR: 4.2	Chaparral, coastal scrub, valley and foothill grassland. Clay soils.	Not detected during surveys. No potential to occur on any of the sites.
Parish's brittlescale *Atriplex parishii*	Federal: None State: None CRPR: 1B.1	Chenopod scrub, playas, vernal pools.	Not detected during surveys. No potential to occur on site due to lack of suitable habitat.
Prostrate navarretia *Navarretia prostrata*	Federal: FSC State: None CRPR: 1B.1	Coastal sage scrub, valley and foothill grassland (alkaline), vernal pools. Occurring in mesic soils.	Not detected during surveys. No potential to occur on any of the sites.
Rayless ragwort *Senecio aphanactis*	Federal: None State: None CRPR: 2.2	Chaparral, cismontane woodland, coastal scrub. Sometimes alkaline soils.	Not detected during surveys. No potential to occur on any of the sites.
Robinson's pepper-grass *Lepidium virginicum var. robinsonii*	Federal: None State: None CRPR: 1B.2	Chaparral, coastal scrub.	Not detected during surveys. No potential to occur on any of the sites.
Salt marsh bird's-beak *Chloropyron maritimus* ssp. *maritimus*	Federal: FE State: SE CRPR:1B.2	Coastal dune, coastal salt marshes and swamps.	Highly distinctive species not detected during surveys. Potentially suitable habitat present in salt marsh areas in Steamshovel Slough.

Species	Status	Habitat	Potential for Occurrence
San Bernardino aster *Symphyotrichum defoliatum*	Federal: None State: None CRPR:1B.2	Meadows and seeps, marshes and swamps, coastal scrub, cismontane woodland, lower montane coniferous forest, grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas.	Not detected during surveys. No potential to occur on any of the sites due to lack of detection and undisturbed suitable habitat.
San Fernando Valley spineflower *Chorizanthe parryi* var. *fernandina*	Federal: FSC State: SE CRPR: 1B.1	Coastal sage scrub, occurring on sandy soils.	Not detected during surveys. No potential to occur on site.
Sanford's arrowhead *Sagittaria sanfordii*	Federal: None State: None CRPR: 1B.2	Marshes and swamps.	Not detected during surveys. No potential to occur on site due to lack of suitable habitat and site is outside of historic range (i.e., no records in Los Angeles County)
Santa Barbara morning-glory *Calystegia sepium ssp. binghamiae*	Federal: None State: None CRPR: 1A	Coastal marshes.	Not detected during surveys. No potential to occur on site due to extinction in California.
Santa Catalina Island desert-thorn *Lycium brevipes var. hassei*	Federal: None State: None CRPR: 1B.1	Coastal bluff scrub, coastal scrub.	Not detected during surveys. No potential to occur due to sites being outside of range and lack of detection.
Seaside calandrinia *Calandrinia maritima*	Federal: None State: None CRPR: 4.2	Coastal bluff scrub, coastal scrub, valley and foothill grassland. Sandy soils.	Not detected during surveys. No potential to occur on any of the sites.
South coast saltscale *Atriplex pacifica*	Federal: None State: None CRPR: 1B.2	Coastal bluff scrub, coastal dunes, coastal sage scrub, playas.	Not detected during surveys. No potential to occur on any of the sites.
Southern tarplant *Centromadia parryi* ssp. *australus*	Federal: None State: None CRPR: 1B.1	Disturbed habitats, margins of marshes and swamps, vernally mesic valley and foothill grassland, vernal pools.	Occurs on Pumpkin Patch, City Property, and Synergy Oil Field.
Southwestern spiny rush *Juncus acutus ssp. Leopoldii*	Federal: None State: None CRPR: 4.2	Mesic coastal dunes, alkaline meadows and seeps, coastal salt marshes and swamps.	This perennial species is highly distinctive and easily detected and was not detected on any of the properties; although suitable habitat is present on Synergy and the City parcel.
Ventura Marsh milk-vetch *Astragalus pycnostachyus var. lanosissimus*	Federal: FE State: SE CNPS: List 1B.1	Coastal salt marsh. Within reach of high tide or protected by barrier beaches, more rarely near seeps on sandy bluffs.	Not detected during surveys. Low to Moderate potential to occur in marsh areas in Steamshovel Slough.
Western dichondra *Dichondra occidentalis*	Federal: None State: None CRPR: 4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland.	Not detected during surveys No potential to occur on any of the sites.

Species	Status	Habitat	Potential for Occurrence
Wooly seablite *Suaeda taxifolia*	Federal: None State: None CRPR: 4.2	Coastal bluff scrub, coastal dunes, margins of coastal salt marshes and swamps.	Observed in single location on northern side of Steamshovel Slough

4.3 Special-Status Plants Observed

Three special-status plants were observed during focused surveys: estuary seablite, southern tarplant, and wooly seablite. Specifically, all three species occur on the Synergy Oil Field, with southern tarplant also occurring on the Pumpkin Patch and City Property sites, and are shown on Exhibits 7A-7C. No special-status plants occur on the LCWA site.

4.3.1 Estuary Seablite (*Suaeda esteroa*)

Estuary seablite is a perennial shrub designated as a CRPR 1B.2 that is known from Santa Barbara, Ventura, Los Angeles, Orange, and San Diego counties as well as from Baja California. Estuary seablite occurs in mid- to upper zones of coastal salt marshes. The flowering period occurs from May to October. This species was detected on the Synergy Oil Field, where it occurs primarily within Steamshovel Slough and is most common in the mid- to upper-marsh areas growing on berms and slopes. It also occurs in the tidal areas immediately south of the berm that separates the Steamshovel Slough from the areas to the south. Approximately 650 individuals were detected.

4.3.2 Southern tarplant (*Centromadia parryi* ssp. *australus*)

Southern tarplant is an annual herb designated as a CRPR 1B.1 that is known from Los Angeles, Orange, Santa Barbara, Santa Catalina Island, San Diego, Ventura, and Baja California. Southern tarplant occurs at the margins of marshes and swamps, valley and foothill grasslands, and disturbed areas. The flowering period occurs from May to November. This species was detected on three of the four properties including the Synergy Oil Field, Pumpkin Patch site, and City Property site.

On the Synergy Oil Field, southern tarplant is most common in disturbed areas, including road edges, existing and former oil well pads, and other disturbed ground. Based on surveys on this site as well as other sites in southern California, the 2015 season exhibited large numbers as seen on the Synergy Oil Field where the population was estimated (based on samples from each polygon using a one-meter square quadrat) to be approximately 279,000 individuals, which included numerous small individuals a few inches tall with one or two flowers and densities ranging from one plant per square meter up to 350 plants per square meter. Large plants (in excess of 12 inches and typically with multiple branches and scores of flowering heads) were estimated at between 10,000 and 20,000 individuals. By way of contrast in 2016, numbers are smaller by orders of magnitude. Based on sampling at representative locations, the population in 2016 on the site is estimated to range between 5,500 and 8,000 individuals.

The Pumpkin Patch site occurrence of southern tarplant is associated with the shallow seasonal depression. Approximately 155 individuals were detected in 2016.

On the City Property site, southern tarplant occurs along the road edges and in disturbed areas. Based on site reconnaissance surveys conducted between 2011 and 2013, the population is estimated to be between 200 and 400 plants.

4.3.3 Wooly Seablite (*Suaeda taxifolia*)

Wooly seablite is a perennial shrub designated as a CRPR 4.2 that is known from San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Diego counties as well as from Baja California, the Channel Islands and the Central Valley. Wooly seablite occurs in upper zones of coastal salt marshes as well as on coastal bluffs, coastal sage scrub, and at the edge of alkali marshes. The flowering period occurs year-round. This species was detected on the Synergy Oil Field, where it occurs in upper marsh areas or on berms associated with Steamshovel Slough. Approximately 10 individuals were detected.

4.4 Wildlife Surveys

4.4.1 Birds

Collectively, the project site supports a wide range of avifauna, both residents and migrants. The Synergy Oil Field supports the highest diversity of wintering water fowl and shore birds along with a variety of special-status species, which are further addressed below, including American peregrine falcon (*Falco peregrinus anatum*), belding's savannah sparrow (*Passerculus sandwichensis beldingi*), California brown pelican (*Pelecanus occidentalis*), California least tern (*Sterna antillarum browni*), foraging/wintering northern harrier (*Circus cyaneus*), Osprey (*Pandiohn haliaetus*), western snowy plover (*Charadrius alexandrinus nivosus*), and white-tailed kite (*Elanus leucurus*). Steamshovel Slough supports a high diversity of wintering avifauna including shore birds such as spotted sandpiper (*Actitis macularia*), western sandpiper (*Calidris mauri*), least sandpiper (*Calidris minutilla*), semipalmated plover (*Charadrius semipalmatus*), long-billed dowitcher (*Limnodromus scolopaceus*), marbled godwit (*Limosa fedosa*), greater yellowlegs (*Tringa semipalmatus*), long-billed curlew (*Numenius americanus*), whimbrel (*Numenius* phaeopus), and Willet, (*Tringa semipalmatus*); waterfowl including brant (*Branta bernicla*), Bufflehead (*Bucephala albeola*), northern pintail (*Anas acuta*), American widgeon (*Anas Americana*), northern shoeveler (*Anas clypeata*), green-winged teal (*Anas crecca*), cinnamon teal (*Anas cyanoptera*), blue-winged teal (*Anas discors*), mallard (*Anas platyrhynchos*), gadwall (*Anas Strepera*), greater scaup (*Aythya marila*), American coot (*Fulica americana*), red-breasted merganser (*Mergus serrator*), and ruddy duck (*Oxyura jamaicensis*); grebes including Clark's grebe (*Aechmorphus clarkii*), western grebe (*Aechmorphus occidentalis*), horned grebe (*Podiceps auritus*), eared grebe (*Podiceps nigricollis*), and pied billed grebe (*Podilymbus podiceps*); herons and egrets including great egret (*Ardea alba*), great blue heron (*Adrea herodias*), American bittern (*Botaurus lentiginosus*), reddish egret (*Egretta refescens*), snowy egret (*Egretta thula*), and black-crowned night-heron (*Nycticorax nyctocorax*); terns and gulls including Caspian tern (*Hydroprogne caspia*), California gull (*Larus californicus*), ring-billed gull (*Larus delawarensis*), Heermann's gull (*Larus heermanni*), western

gull (*Larus occidentalis*), Bonaparte's gull (*Larus philadelphia*), black skimmer (*Rynchops niger*), and elegant tern (*Thalasseus elegans*).

4.4.2 Mammals

Mammals detected on the project site either by direct observation or by physical evidence include coyote (*Canis latrans*), California ground squirrel (*Spermophilus beechyi*), Audubon's cottontail (*Sylvilagus audubonii*), brush rabbit (*Sylvilagus bachmani*), Botta's pocket gopher (*Thomomys bottae*), raccoon (*Procyon lotor*), and domestic dog (*Canis lupus familiaris*). The Synergy Oil Field has potential to support two special-status small mammals, which are addressed below: South coast marsh vole (*Microtus californicus stephensi*) and Southern California salt marsh shrew (*Sorex ornatus salicornicus*). Additionally, the mouth of Steam Shovel slough has potential to support two marine mammals: harbor seal (*Phoca citulina*) and California sea lion (*Zalophus californianus*).

4.4.3 Reptiles and Amphibians

Herpetofauna observed include western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), Pacific green sea turtle (*Chelonia midas*), southern alligator lizard (*Gerrhonotus multicarinatus*), gopher snake (*Pituophis melanoleucus*), and Baja California treefrog (*Pseudacris hypochondriaca*).

4.4.4 Marine Fish

Marine fish observed include topsmelt (*Atherinops affinis*), arrow goby (*Clevelandia ios*), California killifish (*Fundulus parvipinnis*), staghorn sculpin (*Leptocottus armatus*), bay pipe fish (*Synganthus griseolineatus*), and round sting ray (*Urobatis haleri*).

4.5 Special-Status Animals

Table 4-6 provides a summary of all species evaluated for this report based on: 1) species identified by the 2015 CNDDB as occurring (either currently or historically) in the USGS Los Alamitos, Long Beach, Seal Beach and San Pedro Quadrangles, and 2) any other special-status species that are known to occur within the vicinity of the property, or for which potentially suitable habitat occurs on site. Following the table, additional discussions are provided for any special-status animals observed on site or for which potentially suitable habitat occurs on the property.

Table 4-6. Special-status Wildlife Evaluated for this Report

Species Name	Status	Habitat Requirements	Potential for Occurrence
INVERTEBRATES			
Crotch bumble bee *Bombus crotchii*	Federal: None State: None	Relatively warm and dry sites, including the inner Coast Range of California and margins of the Mojave Desert.	Not detected during surveys. No potential to occur on site due to lack of suitable habitat.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Dorothy's El Segundo Dune weevil *Trigonoscuta dorothea dorothea*	Federal: None State: None	Sand dunes in El Segundo, CA.	Not detected during surveys. No potential to occur on site due to lack of suitable habitat.
Mimic tryonia (California brackishwater snail) *Tryonia imitator*	Federal: None State: None	Coastal areas with brackish waters.	Not detected during surveys. No potential to occur on site due to lack of suitable habitat.
Monarch – California overwintering population *Danaus plexippus pop. 1*	Federal: None State: None	Roosts in winter in wind-protected tree groves along the California coast from northern Mendocino to Baja California, Mexico.	Not detected during surveys. No potential to occur on site due to lack of suitable habitat.
Mudflat Tiger Beetle *Cicindella trifasciata sigmoidea*	Federal: None State: None	This predatory beetle inhabits salt marshes, mudflats and salt pannes where they make burrows in the intertidal zone.	This species has been documented on tidal mudflats in Steamshovel Slough
Palos Verdes blue butterfly *Glaucopsyche lygdamus palosverdesensis*	Federal: FE State: None	Locoweed and deerweed in the Palos Verdes Peninsula.	Not detected during surveys. No potential to occur on site due to lack of suitable habitat.
Salt marsh wandering skipper *Panoquina errans*	Federal: None State: SSC CDFW: None ICUN Red List 2.3 (near threatened)	Coastal salt marsh and coastal strand areas dominated by saltgrass.	Suitable habitat on Synergy, Pumpkin Patch and City Property Site
San Diego fairy shrimp *Branchinecta sandiegonensis*	Federal: FE State: None CDFW: None	Seasonal vernal pools.	Marginally suitable habitat on Pumpkin Patch site, protocol surveys found the common versatile fairy shrimp. San Diego fairy shrimp is not expected to occur.
Sandy beach tiger beetle *Cicindela hirticollis gravida*	Federal: None State: None	Forages in open unvegetated areas such as marsh plannes and levees. Larvae burrow in moist unvegetated substrates.	Not observed, potentially suitable habitat within Streamshovel Slough
Senile tiger beetle *Cicindela senilis frosti*	Federal: None State: None	Open, unvegetated areas in or near salt marshes.	Not observed, potentially suitable habitat with Streamshovel Slough
Riverside fairy shrimp *Streptocephalus wootoni*	Federal: FE State: None CDFW: None	Deep seasonal vernal pools, with warm water, and low to moderate dissolved solids, that remained filled for extended periods of time. Annual grasslands or patches.	No suitable habitat within and of the properties due to the lack of long-lived (> two months) vernal pools.
Western beach tiger beetle *Cicindela latesignata latesignata*	Federal: None State: None	Forages in open unvegetated areas such as marsh plannes and levees. Larvae burrow in moist unvegetated substrates.	Not observed, potentially suitable habitat within Streamshovel Slough
Western tidal-flat tiger beetle *Cicindela gabbii*	Federal: None State: None	Open, unvegetated areas in or near salt marshes.	Not observed, potentially suitable habitat within Streamshovel Slough
AMPHIBIANS			

Species Name	Status	Habitat Requirements	Potential for Occurrence
Arroyo southwestern toad *Bufo microscaphus californicus*	Federal: FE State: None CDFW: CSC	Historically along length of drainages; currently in headwaters, sandy washes and arroyos grown to willows, cottonwoods or sycamores.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
California red-legged frog *Rana aurora draytonii*	Federal: FT State: None CDFW: CSC	Permanent flowing water sources, including marshes, streams, lakes ponds; woodland or valley foothill grasslands; sufficient vegetative cover	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Western spadefoot toad *Scaphiopus hammondi*	Federal: None State: None CDFW: CSC	Coastal sage scrub, vernal pools, and grasslands; breeds in associated temporary pools and riparian areas.	No potential to occur on site due to a lack of suitable freshwater seasonal ponds that pond for sufficient duration to support breeding on any of the sites.
REPTILES			
Coast-horned lizard *Phrynosoma blainvilli*	Federal: None State: SSC	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	Federal: None State: None CDFW: CSC	Open areas within coastal sage scrub, chaparral, grassland, desert scrub, washes, sand flats, & rocky areas.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Orange-throated whiptail Aspidoscelis hyperythra	Federal: None State: None CDFW: CSC	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes & other sandy areas with patches of brush & rocks. Perennial plants necessary for its major food –termites.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Pacific green sea turtle *Chelonia mydas*	Federal: FT State: None IUCN:E	Green turtles are generally found in fairly shallow waters (except when migrating) inside reefs, bays, and inlets. The turtles are attracted to lagoons and shoals with an abundance of marine grass and algae.	Potential foraging habitat within mouth of Steamshovel Slough on the Synergy Oil Field.
Red diamond rattlesnake *Crotalus ruber ruber*	Federal: None State: None CDFW: CSC	Chapparal, woodland, grassland, & desert areas from coastal San Diego county to the eastern slopes of the mountains. Occurs in rocky areas & dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	No potential to occur on site due to a lack of suitable habitat on any of the sites..
San Diego horned lizard *Phrynosoma coronatum blainvillei*	Federal: None State: None CDFW: CSC	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands. Sandy soils.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Silvery legless lizard *Anniella pulchra pulchra*	Federal: None State: None CDFW: CSC	Sparse coastal sage scrub, chaparral, grassland, riparian and woodland habitats within moist sandy soil.	No potential to occur on site due to a lack of suitable habitat on any of the sites.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Western pond turtle *Emys marmorata*	Federal: None State: None CDFW: SSC	Slow-moving permanent or intermittent streams, small ponds and lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and treatment lagoons. Abundant basking sites and cover necessary, including logs, rocks, submerged vegetation, and undercut banks.	No potential to occur on any of the properties.
Two-striped garter snake *Thamnophis hammondii*	Federal: None State: None CDFW: CSC	Highly aquatic. Found in freshwater marshes and riparian habitats, in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
BIRDS			
American peregrine falcon *Falco peregrinus anatum*	Federal: None State: SE/CFP CDFW:	Near wetlands, lakes, rivers or other water, on cliffs, banks, dunes, mounds, also human-made structures.	Potential foraging in Steamshovel Slough City Property. No suitable breeding sites on any of the four sites.
Bank swallow *Riparia riparia*	Federal: None State: ST CDFW: None	Colonial nester; nests primarily in riparian and other lowland habitats west or the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Belding's savannah sparrow *Passerculus sandwichensis beldingi*	Federal: None State: SE CDFW: None	Coastal salt marshes. Nests in *Salicornia* sp. and about margins of tidal flats.	Suitable habitat within Steamshovel Slough and other areas of pickleweed habitat on Synergy Oil Field as well as the City Property site. Observed in multiple locations on Synergy Oil Field
Bell's sage sparrow *Amphispiza belli belli*	Federal: None State: None CDFW: CSC	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range. Nest located on the ground beneath a shrub or in a shrub 6-18 inches above the ground.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Black skimmer *Rynchops niger*	Federal: None State: None CDFW: CSC	Nests on gravel bars, low islets and sandy beaches, in unvegetated sites.	Not observed on site and low potential to occur within Steamshovel Slough for foraging.
Burrowing owl *Athene cunicularia*	Federal: None State: None CDFW: CSC	Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	All four sites exhibit potential wintering habitat; however, this species was not detected during focused surveys.

Species Name	Status	Habitat Requirements	Potential for Occurrence
California black rail *Laterallus jamaicensis coturniculus*	Federal: None State: ST/CFP CDFW:	Salt marshes bordering larger bays, coastal spartina marshes, inland in dense, shortgrass, shallow marshes.	Low potential to occur in marsh areas of Steamshovel Slough.
California Brown Pelican *Pelecanus occidentalis californicus*	Federal: State: CFP CDFW:	Coastal, salt bays, ocean, beaches. Nests on coastal islands of small to moderate size that afford immunity from attack by ground-dwelling predators.	Low potential to occur in marsh areas of Steamshovel Slough.
California horned lark *Eremophila alpestris actia*	Federal: None State: None CDFW: CSC	Coastal regions in Southern California. Short-grass prairies "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Not observed on site. No potential to nest on site due to lack of suitable habitat.
California least tern *Sterna antillarum browni*	Federal: FE State: SE/CFP CDFW:	Flat, vegetated substrates near the coast. Occurs near estuaries, bays, or harbors where fish is abundant.	Has been observed foraging in Steamshovel Slough, no suitable breeding areas on any of the four properties.
Coastal cactus wren *Campylorhynchus brunneicapillus couesi*	Federal: None State: None CDFW: CSC	Southern California coastal sage scrub. Wrens require tall opuntia cactus for nesting and roosting.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Coastal California gnatcatcher *Polioptila californica californica*	Federal: FT State: None CDFW: CSC	Low elevation coastal sage scrub and coastal bluff scrub.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Double Crested cormorant *Phalacrocorax auritus*	Federal: None State: None CDFW: CSC	Coasts, bays, lakes, rivers.	Observed foraging on site. No potential to nest on site. No potential to forage adjacent to site.
Ferruginous hawk *Buteo regalis*	Federal: FSC State: None CDFW: CSC	Only present as wintering individuals. Prefers open grasslands and agricultural areas.	No potential to nest on site. No potential to forage on site. .
Golden Eagle *Aquila chrysaetos*	Federal: None State: CFP CDFW:	In southern California, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Not observed on site. No potential to occur on site due to lack of suitable habitat.
Least Bell's vireo *Vireo belii pusilus*	Federal: FE State: SE CDFW: CSC	Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	No potential to occur onsite due to lack of suitable habitat.
Ridgway rail *Rallus obsoletus*	Federal: FE State: SE/CFP CDFW:	Found in salt marshes where cordgrass and pickleweed are the dominant vegetation. Requires dense growth of either pickleweed or cordgrass for nesting or escape cover, feeds on mollusks and crustaceans.	Potential habitat within Steamshovel Slough.
Loggerhead shrike *Lanius ludovicianus*	Federal: None State: None CDFW: CSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree & riparian woodlands, desert oases, scrub & washes. Prefers open country for hunting with perches for scanning and fairly dense shrubs and brush for nesting.	No suitable habitat within project site.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Long-eared owl *Asio otus*	Federal: None State: None CDFW: CSC	Riparian bottomlands grown to tall willows & cottonwoods; also belts of live oak paralleling stream courses. Require adjacent open land productive of mice and presence of old nests of crows.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Merlin *Falco columbarius*	Federal: None State: None CDFW: CSC	Only present as wintering individuals. Forages in a variety of habitats including riparian areas such as present on the site.	Potential for foraging on Synergy Oil Field (wintering only)
Northern harrier (nesting) *Circus cyaneus*	Federal: None State: None CDFW: CSC	A variety of habitats, including open wetlands, grasslands, wet pasture, old fields, dry uplands, and croplands.	Potential for foraging on Synergy and limited potential for breeding.
Osprey *Pandiohn haliaetus*	Federal: None State: None CDFW: CSC	Ocean shore, bays, fresh-water lakes, and larger streams. Large nests built in treetops within one mile of a good fish-producing body of water.	Observed foraging regularly in tidal areas on the Synergy property.
Tri-colored blackbird *Agelaius tricolor*	Federal: None State: None CDFW: CSC	Requires open water, protected nesting & foraging area with insect prey within a few km of the colony.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Short-eared owl *Asio flammeus*	Federal: None State: None CDFW: CSC	Found in swamplands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	Not observed on site during surveys. Low potential to occur during winter in Steamshovel Slough.
Southwestern willow flycatcher *Empidonax traillii extimus*	Federal: FE State: SE CDFW: CSC	Riparian woodlands in southern California.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Swainson's Hawk *Buteo swainsoni*	Federal: None State: ST CDFW: None	Breeding habitat consists of grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands. Requires adjacent suitable foraging areas such as grasslands or alfalfa or grain fields that support rodent populations.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Western least bittern *Ixobrychus exilis hesperis*	Federal: None State: None CDFW: CSC	Colonial nester in marshlands and borders of ponds and reservoirs that provide ample cover. Nests usually placed low in tules over water.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Western snowy plover *Charadrius alexandrinus nivosus*	Federal: FT State: None CDFW: CSC	Sandy or gravelly beaches along the coast, estuarine salt ponds, alkali lakes, and at the Salton Sea.	Potential foraging within Steamshovel Slough and other tidal areas on Synergy Oil Field.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	Federal: FT, BCC State: SE	Dense, wide riparian woodlands with well-developed understories.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
White-tailed kite (nesting) *Elanus leucurus*	Federal: FSC State: CFP CDFW:	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Dense canopies used for nesting and cover.	Potential foraging on Synergy and also limited potential for nesting.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Yellow-breasted chat *Icteria virens*	Federal: None State: None CDFW: CSC	Summer resident; inhabits riparian thickets of willow & other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Yellow warbler *Dendroica petechia brewsteri*	Federal: None State: None CDFW: CSC	Riparian plant associations. Prefers willows, cottonwoods, aspens, sycamores & alders for nesting & foraging. Also nests in montane shrubbery in open conifer forests.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
MAMMALS			
American badger *Taxidea taxus*	Federal: None State: None CDFW: CSC	Occurs in drier shrub, forest, and herbaceous habitats. Needs open, uncultivated ground and friable soils for digging burrows. Preys on burrowing rodents.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Big free-tailed bat *Nyctinomops macrotis*	Federal: None State: None CDFW: CSC	Occurs in low-lying arid areas in Southern California. Roosts in high cliffs or rocky outcrops.	No potential occur on site due to lack of suitable habitat.
Hoary bat *Lasiurus cinereus*	Federal: None State: None CDFW: CSC	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	No potential occur on site due to lack of suitable habitat.
Pacific pocketmouse *Perognathus longimembris pacificus*	Federal: FE State: None CDFW: CSC	Seems to prefer soils of fine alluvial sands near the ocean.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
San Diego desert woodrat *Neotoma lepida intermedia*	Federal: None State: CSC	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
Silver-haired bat *Lasionycteris noctivagans*	Federal: None State: None WBWG: M	Temperate, northern hardwoods with ponds or streams nearby. Roost in hollow snags and bird nests.	No potential to occur on site due to a lack of suitable habitat on any of the sites.
South coast marsh vole *Microtus californicus stephensi*	Federal: None State: None CDFW: CSC	Tidal marshes in Los Angeles, Orange and southern Ventura Counties.	Potential occur in Steamshovel Slough and other tidal areas on Synergy Oil Field.
Southern California salt marsh shrew *Sorex ornatus salicornicus*	Federal: None State: None CDFW: CSC	Coastal marshes in Los Angeles, Orange and southern Ventura Counties. Requires dense vegetation and woody debris for cover.	Potential occur in Steamshovel Slough and other tidal areas on Synergy Oil Field.
Western mastiff bat Eumops perotis californicus	Federal: None State: None CDFW: CSC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees, & tunnels.	No potential occur on site due to lack of suitable habitat.

Federal
FE – Federally Endangered
FT – Federally Threatened
FSC – Federal Species of Special Concern

State
SE – State Endangered
ST – State Threatened

CDFW
CSC – California Species of Special Concern
CFP – California Fully Protected Species

International Union for Conservation of Nature
IUCN Red List

4.6 Special-status Animals Observed or With the Potential to Occur on the Project Site

The Synergy Oil Field exhibits the potential for the greatest number of special-status species, followed by the City Property site, Pumpkin Patch site and finally, the LWCA site. The species with the potential to occur on each site are discussed below.

4.6.1 Synergy Oil Field

The following special-status animals have been documented as occurring or having potential to occur within the Synergy Oil Field.

4.6.1.1 American Peregrine Falcon (*Falco peregrinus anatum*)

The American peregrine falcon is a state endangered species, but was federally delisted in 1999. Northwestern populations are year-round residents from central Mexico to Alaska. American peregrine falcons forage in a variety of habitats including grasslands, meadows, coastlines and wetlands where they hunt waterfowl and shorebirds. Organochlorine pesticides were a primary cause for decline before they were banned in the 1970's, but habitat loss due to development and human disturbance is also responsible for this raptor's decline. Habitat for prey occurs over much of the Synergy Oil Field; however, the tidal saltmarsh areas associated with Steamshovel Slough exhibit the best foraging areas due to the highest concentrations of potential prey. No American peregrine falcons were observed on site during any surveys or site visits; however, individuals resident in the vicinity and/or migrants are expected to forage occasionally on site.

4.6.1.2 Belding's Savannah Sparrow (*Passerculus sandwichensis beldingi*)

The Belding's savannah sparrow is a state endangered bird, and a candidate species for federal protection. This species is a non-migratory subspecies that occurs in coastal salt marshes between Goleta Slough, Santa Barbara County, and Bahia de San Quentin in Mexico. The Belding's savannah sparrow is entirely dependent on salt marshes for nesting and foraging, and thus resides year-round in this habitat and is resident and common on the site, with the highest concentrations within and in proximity to Steamshovel Slough. This species nests preferentially in common pickleweed and/or Parish's glasswort. This species was most commonly observed within Steamshovel Slough and along the berm that demarcates the southern limits of the Slough and is presumed to nest in these areas. In addition, this species was also observed foraging within areas of pickleweed and Parish's glasswort south of the Slough. Exhibit 6A depicts areas of suitable breeding and/or foraging habitat on the site for this species.

4.6.1.3 Burrowing Owl (*Athene cunicularia*)

Habitat for the burrowing owl is varied, including short-grass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Burrowing owls require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows (e.g., ground squirrels, rabbits, etc.). As a primary habitat need, they require the use of rodent or other burrows for roosting and nesting cover. They may also dig their own burrow in soft, friable soil (as found in Florida) and may also use pipes, culverts, and nest boxes where burrows are scarce. The mammal burrows are modified and enlarged by the owls. In the case of nesting owls, one burrow is typically selected for use as the nest; however, satellite burrows are usually found within the immediate vicinity of the nest burrow within the defended territory of the owl. This species was not detected during focused surveys in 2015, 2016, or 2017.

4.6.1.4 California least tern (*Sterna antillarum browni*)

The California least tern is listed under both the state and federal Endangered Species Acts as endangered and is also a California fully protected species. In southern California it breeds at scattered sites along the coast from San Diego to San Luis Obispo counties. This species has been observed foraging within Steamshovel Slough; however, there are no potential breeding areas on the site.

4.6.1.5 Ridgway rail (*Rallus obsoletus*)

The Ridgway rail (formerly designated as the light-footed clapper rail) is a federal endangered, state endangered, and California fully protected species. In southern California, the clapper rail is a year-round resident that prefers coastal salt marshes, but also inhabits freshwater marshes. Cordgrass (*Spartina* spp.) and bulrush (*Bolboshchoenus* spp. and *Schoenoplectus* spp.) are among the preferred species for nesting. Steamshovel Slough exhibits the highest potential for supporting this species; however, it has not been observed on the site.

4.6.1.6 Mudflat Tiger Beetle (*Cicindela trifasciata sigmoidea*)

The mudflat tiger beetle is considered locally rare, though it has no state or federal status. This predatory beetle inhabits salt marshes, mudflats and salt pannes where they make burrows in the intertidal zone. It has been documented as occurring on mudflats in Steamshovel Slough (Tidal Influence, 2012).

4.6.1.7 Northern harrier (nesting) (*Circus cyaneus*)

The northern harrier is a California Species of Special Concern. This species range is across all of North America, wintering across most of the southern United States and into Mexico. The northern harrier is now one of the rarest nesting raptors in southwestern California. Characteristically, this hawk inhabits marshlands, both coastal salt and freshwater, but often forages over grasslands and fields, requiring open habitats for foraging. Northern harriers have occasionally been observed

foraging on the site. There have been no records of nesting on the site; however, there are potentially suitable areas for nesting in some of the higher areas of Steamshovel Slough; nevertheless, impacts to this species are not expected to occur with the proposed project.

4.6.1.8 Osprey (*Pandiohn haliaetus*)

The osprey is a California Species of Special Concern, which breeds across most of North America, through Central America and over much of South America. This species also occurs throughout the Old World and Australia. The osprey breeds in habitats with shallow water and large fish, and winters along large bodies of water containing fish. Ospreys were observed regularly foraging on the site, with the open water areas of Steamshovel Slough providing the best habitat. Ospreys were observed using telephone poles for perches after taking fish from areas of open water. There are no suitable breeding platforms on the site and therefore breeding is not expected.

4.6.1.9 Pacific Green Sea Turtle (*Chelonia mydas*)

The Pacific green sea turtle is a federal endangered and listed on the International Union for the Conservation of Nature (IUCN) Red List as 4, which means "endangered." This species is generally found in fairly shallow waters (except when migrating) inside reefs, bays, and inlets. The turtles are attracted to lagoons and shoals with an abundance of marine grass and algae. They have been documented immediately upstream of the Steamshovel Slough, within the Los Cerritos Channel (Tidal Influence, 2012), and have the potential to occur at the mouth of the Slough.

4.6.1.10 Short-eared owl (*Asio flammeus*)

The short-eared owl is a California Species of Special Concern. It prefers open habitats such as grasslands, prairie, agricultural fields, salt marshes, estuaries, and mountain meadows. Breeding habitat must have sufficient ground cover to conceal nests and nearby sources of small mammals for food. This species roosts in disturbed areas such as thick hedgerows, overgrown rubble and abandoned fields. The Steamshovel Slough may provide potentially suitable wintering habitat, however, this species was not observed on site during surveys.

4.6.1.11 South coast marsh vole (*Microtus californicus stephensi*)

The south coast marsh vole is a California Species of Special Concern, and ranges from southwestern Oregon through much of California. This species prefers grassy meadow habitats and feeds on grasses and other green vegetation when available; piles of cuttings are found along its runways. It breeds from September to December. In winter, it eats mostly roots and other underground parts of plants. Major threats are non-native plants that have replaced the plants it needs to survive and introduced non-native animals such as the common house mouse and other non-natives have displaced it through competition. This species was not observed on site during any general biological surveys; however the salt marsh areas in Steamshovel Slough may provide suitable habitat.

4.6.1.12 Southern California salt marsh shrew (*Sorex ornatus salicornicus*)

The southern California salt marsh shrew is a California Species of Special Concern that is endemic to southern California's coastal marshes in from Point Mugu, Ventura County to salt marshes around Anaheim Bay and Newport Beach in Orange County. This species appears to prefer coastal marshes. Based on studies of other similar shrews, the southern California salt marsh shrew likely requires fairly dense ground cover, nesting sites above mean high tide free from inundation, and fairly moist surroundings. Major threats are loss of habitat due to development along the coast, and lack of refuge sites above the marshes to escape from flooding during seasonal high tides and periodic storms. This species was not observed on site during any general biological surveys; however, the salt marsh areas in Steamshovel Slough may provide suitable habitat.

4.6.1.13 Salt Marsh Wandering Skipper (*Panoquina errans*)

The wandering skipper is a small light brown butterfly that is listed on the International Union for the Conservation of Nature (IUCN) Red List as 2.3, which means "near threatened". The flight season extends from March to November and peaks during the summer. The wandering Skipper's known range extends along the California coast from the cape region of Baja California to Santa Barbara County, but only in suitable localities within this range, which include areas with saltgrass, which is the larval host plant. Suitable habitat for this species occurs within Steamshovel Slough as well as areas to the south of the slough that support patches of saltgrass. Focused surveys were not performed; however, it is expected to occur throughout portions of the site.

4.6.1.14 Western snowy plover (*Charadrius alexandrinus nivosus*)

The western snowy plover is listed as federally endangered and is a California Species of Special Concern that nest on coastal beaches from southern Washington to southern Baja California, Mexico. The breeding season extends from March through September. Nests occur in flat, open areas with sandy substrates without much vegetation. The western snowy plover forages on invertebrates along the shore and along the edges of salt marshes. Habitats used by this species include sandy coastal beaches, saltpans, coastal dredged spoils sites, dry salt ponds, salt pond levees, gravel bars, salt marshes, and lagoons. Major threats are loss of suitable nesting habitat and where habitat remains, disturbance from human activity near nesting sites, including general maintenance practices necessary to maintain our beaches and recreational activity. The western snowy plover has not been observed foraging, and the site contains no suitable breeding areas.

4.6.1.15 White-tailed kite (*Elanus leucurus*)

The white-tailed kite is a state fully-protected species that occurs through much of California. In California, the white-tailed kite is a year-round resident in coastal and valley lowlands. It prefers open habitats including grasslands, open shrub, agricultural areas, wetlands dominated by grasses, fence rows and irrigation ditches adjacent to grazed lands, riparian, oak woodlands, coastal sage scrub, and salt marsh. White-tailed kites were observed foraging on the site; however, there is little suitable habitat for nesting and it is not expected to nest on the site.

4.6.2 Pumpkin Patch Site

Relative to the special-status species listed above under the Synergy Oil Field, the northeast lowland portion of the Pumpkin Patch site exhibits potential for supporting five species: the burrowing owl, south coast marsh vole, southern California saltmarsh shrew, wandering skipper, and San Diego fairy shrimp. The burrowing owl was not detected during focused surveys in 2015, 2016, or 2017. Only the common versatile fairy shrimp (*Branchinecta lindahli*) was detected during the focused surveys in 2011-2013 and 2016/2017; the San Diego fairy shrimp has never been detected on the site during any of the focused surveys. The south coast marsh vole, southern California saltmarsh shrew, and wandering skipper have not been observed on site during any general biological surveys; however, the salt marsh areas in the northeast of the site may provide suitable habitat.

4.6.3 LCWA Site

Relative to the special-status species listed above under the Synergy Oil Field, the LCWA site exhibits potential for two species: the burrowing owl and white-tailed kite. The trees on the site represent potential nesting habitat for the white-tailed kite. White-tailed kites have not been observed nesting; nevertheless, the trees on the site exhibit potential as nest sites. The burrowing owl was not detected during focused surveys in 2015, 2016, or 2017.

4.6.4 City Property Site

Relative to the special-status species listed above under the Synergy Oil Field, the City Property Site exhibits potential for supporting four species: Burrowing owl, Belding's savannah sparrow, south coast marsh vole, southern California saltmarsh shrew, and wandering skipper. The site also exhibits limited potential as foraging area for the American peregrine falcon, northern harrier, osprey, and white-tailed kite. The burrowing owl was not detected during focused surveys in 2015, 2016, or 2017.

4.7 Special-Status Habitats

The following special-status habitats occur on the Synergy Oil Field:

California cordgrass marsh (G3S3.2)
Parish's glasswort patches (G4S2)
Alkali heath marsh (G4S3)
Pickleweed Mats (G4S3)

For this report, mud flats are also included as such areas are covered by tidal water on a regular basis and are considered wetlands under the Coastal Act definition (descriptions for each of these habitats are provided in Section 4.2 above).

Pickleweed mats also occur within the northern lowland portion of the Pumpkin Patch and on the City Property Site (mapped as southern coastal salt marsh and alkali meadow in the SEADIP Report). No special-status habitats occur on the LCWA Site.

4.8 Critical Habitat/Essential Fish Habitat

The USFWS has not designated critical habitat on the project site for any species listed as threatened or endangered. Essential Fish Habitat (EFH), which is regulated by the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) and includes bay, estuarine, and eelgrass habitats (Habitats of Particular Concern (HAPC)) have been identified near the mouth of Steamshovel Slough on the Synergy Oil Field (Tidal Influence, 2012). Eelgrass, which is a food source for the federal threatened Pacific green sea turtle, is considered a HAPC for this species.

It is also important to note that Streamshovel Slough is a "dead-end cul-de-sac" lacking connectivity that would provide movement corridors for fish, marine mammals, or reptiles (e.g., green sea turtle). The proposed restoration would not have an effect on any potential movement for marine organisms.

4.9 Jurisdictional Delineation

The Synergy Oil Field, Pumpkin Patch site, and City Property site each contain aquatic resources that potentially meet the definition of Waters of the United States, including wetland areas pursuant to Section 404 of the Clean Water Act and wetlands defined under the Coastal Act. The Synergy Oil Field also includes areas subject to Section 10 of the Rivers and Harbors Act, and the Synergy Oil Field and City Property Site include "streams" potentially subject to CDFW jurisdiction pursuant to Section 1602 of the California Fish and Game Code. The LCWA site does not support aquatic resources subject to Section 404, Section 1602, or that meet the Coastal Act definition of wetlands. A detailed description of wetlands and non-wetland Waters of the United States, Section 10 Waters pursuant to the Rivers and Harbors Act, CDFW jurisdiction, and wetlands defined by the Coastal Act, is provided in the attached Jurisdictional Delineation Report that addresses each of the four properties, and is included as Appendix E. A summary of the findings of the Jurisdictional Delineation Report is provided below for each of the properties.

4.9.1 Synergy Oil Field

The Synergy Oil Field contains aquatic resources that potentially include wetland and non-wetland Waters of the United States, areas subject to Section 10 of the Rivers and Harbors Act, streambeds subject to CDFW jurisdiction pursuant to Section 1602 of the Fish and Game Code, and wetlands as defined by the Coastal Act.

4.9.1.1 U.S. Army Corps of Engineers Section 404 Waters

Areas potentially subject to Corps jurisdiction (Waters of the United States) pursuant to Section 404 total approximately 40.36 acres, of which 35.40 acres consists of jurisdictional wetlands. The northern Phase 1 area includes 37.38 acres of Waters of the United States pursuant to Section 404, of which 33.83 acres are wetland, and the southern Phase 2 area includes 2.98 acres of Waters of the United States pursuant to Section 404, of which 1.57 acres are wetlands. The boundaries and location of the potential waters of the United States are depicted on the Exhibit 5A. The majority of Corps jurisdiction pursuant to Section 404 is located in the Steamshovel

Slough in the northern portion of the site, beyond the oil field operations. Table 4-7 below provides a summary of Corps jurisdiction pursuant to Section 404 and separates the jurisdictional areas according to Phases 1 and 2 of the proposed project. No areas potential subject to Corps jurisdiction pursuant to Section 404 are located within the 0.82-acre City right-of-way.

Table 4-7:
Corps – Potential Section 404 Jurisdiction on Synergy Oil Field (acres)

Vegetation Alliance	Phase 1	Phase 2	Total
Alkali Weed – Saltgrass Flats	0.0	0.25	0.25
Saltgrass Flats	0.0	0.32	0.32
Unvegetated Ephemeral Channel	0.0	0.03	0.03
Mud Flats	0.37	1.38	1.75
Pickleweed Mats	32.45	0.89	33.34
California Cordgrass Marsh	1.38	0.0	1.38
Tidal Channels	3.18	0.0	3.18
Cattail Marsh	0.0	0.11	0.11
Total	**37.38**	**2.98**	**40.36**

*Total acreage may not equal sum of individual fields due to rounding.

4.9.1.2 U.S. Army Corps of Engineers Section 10 Waters

The Synergy Oil Field contains 55.53 acres that are subject to Corps jurisdiction pursuant to Section 10 of the Rivers and Harbors Act. The limits of Section 10 Waters are determined solely through the use of elevational data. Specifically, all areas falling below the elevation for Mean High Water (MHW), which is recorded at 2.12 feet National Geodetic Vertical Datum (NGVD) at this property, meet the Corps' definition for "Navigable Waters" pursuant to Section 10 of the Rivers and Harbors Act. The berm and road impediments on the southern side of the Steamshovel Slough prevent many of the areas within the central and eastern portions of the site from actually receiving any tidal exchange; nevertheless, these areas are mapped as Section 10 Waters based on elevation alone. No Section 10 Waters are located within the 0.82-acre City right-of-way.

4.9.1.3 California Department of Fish and Wildlife Section 1602 Jurisdiction

Areas potentially subject to CDFW jurisdiction associated with the Synergy Oil Field are limited to tidal channels and associated herbaceous riparian/wetland habitat, and two drainage courses [Exhibit 4C]. Potential CDFW jurisdiction totals 17.12 acres and is located entirely within the Synergy Oil Field; no areas within the 0.82-acre City right-of-way are subject to CDFW jurisdiction. Exhibit 5B and Table 4-8 below provide a summary of CDFW jurisdiction pursuant to Section 1602 of the Fish and Game Code.

Table 4-8: CDFW – Potential Section 1602 Jurisdiction on Synergy Oil Field (acres)			
Drainage Features	**Phase 1**	**Phase 2**	**Total**
California cordgrass marsh	1.38	0.0	1.38
Pickleweed Mats	12.27	0.0	12.27
Tidal Channels	3.18	0.0	3.18
Drainage A	0.0	0.11	0.11
Drainage B	0.0	0.18	0.18
Total	**16.83**	**0.29**	**17.12**

*Total acreage may not equal sum of individual fields due to rounding.

4.9.1.4 Wetlands Defined in Accordance with the Coastal Act

Under the Coastal Act, the presence of a single criteria/parameter (i.e., wetland vegetation or hydric soils or wetland hydrology) is sufficient to make a presumptive finding for the presence of wetlands. As such, wetlands defined under the Coastal Act are more extensive in the non-tidal areas of the site as compared to Corps wetlands. Potential wetlands defined under the Coastal Act on the Synergy Oil Field total 100.48 acres and are depicted on Exhibit 4D and summarized in Table 4-9. There are no potential wetlands defined under the Coastal Act located within the 0.82-acre City right-of-way.

Table 4-9: CCC – Potential Wetlands Defined under the Coastal Act on Synergy Oil Field (acres)			
Vegetation Alliance	**Phase 1**	**Phase 2**	**Total**
Parish's Glasswort Patches	9.20	2.77	11.97
Alkali Weed – Saltgrass flats	0.0	0.54	0.54
Shore Grass Flats	0.30	0.22	0.52
Saltgrass Flats	1.61	10.48	12.09
Alkali Heath Flats	0.13	0.74	0.87
Mud Flats	0.37	1.38	1.75
Black Willow	0.0	0.14	0.14
Pickleweed Mats	37.87	14.26	52.13
California Cordgrass Marsh	1.38	0.0	1.38
Tidal Channels	3.18	0.0	3.18
Cattail Marsh	0.0	0.11	0.11
Unvegetated Flats	6.04	9.76	15.8
Total	**60.08**	**40.40**	**100.48**

*Total acreage may not equal sum of individual fields due to rounding.

4.9.2 Pumpkin Patch Site

The Pumpkin Patch Site contains aquatic resources that potentially include wetland and non-wetland Waters of the United States pursuant to Section 404 and wetlands as defined by the Coastal Act. The Pumpkin Patch site contains no areas that meet CDFW's definition of a lake or streambed. As such, there are no areas on the site that are subject to CDFW jurisdiction pursuant to Section 1602 of the California Fish and Game Code.

4.9.2.1 U.S. Army Corps of Engineers Section 404 Waters

Areas potentially subject to Corps jurisdiction (Waters of the United States) pursuant to Section 404 totals approximately 0.42 acre, all of which consists of jurisdictional wetlands, and are depicted on Exhibit 5D and discussed below in Table 4-10. These wetlands occur entirely within the lower back (northeastern) portion of the property.

4.9.2.2 Wetlands Defined in Accordance with the Coastal Act

Potential wetlands as defined by the Coastal Act total 0.84 acre, of which 0.55 acre consists of pickleweed mats with an additional 0.26 acre of unvegetated flat wetland on the lower back (northeastern) portion of the site. As discussed in detail in the attached Jurisdictional Delineation Report, the 0.03-acre seasonal depressions do not meet any of the three criteria for wetland hydrology, hydric soils, or hydrophytic vegetation and should not be considered a wetland under the Coastal Act; however, should the Commission assert otherwise, the acreage associated with the seasonal depressions totals 0.03. Therefore, the total potential area that meets the Coastal Act definition for wetlands is 0.84 acre, as depicted on Exhibit 5E and below in Table 4-10.

Table 4-10:
Corps – Potential Section 404 Jurisdiction (acres)
CCC – Potential Wetlands Defined under the Coastal Act (acres)
Pumpkin Patch Site

Feature	Corps		CCC
	Wetland	Non-Wetland	Wetland
Pickleweed Mats	0.42	0.0	0.55
Unvegetated Flats	0.0	0.0	0.26
Seasonal Depression	0.0	0.0	0.03
Total	**0.42**	**0.0**	**0.84**

*Total acreage may not equal sum of individual fields due to rounding.

4.9.3 LCWA Site

The LCWA site contains no areas that support waters of the United States or State, or that meet the minimal thresholds for wetlands. This includes three criteria wetlands pursuant to Section 404 of the Clean Water Act and one parameter wetlands as defined by the Coastal Act.

4.9.4 City Property Site

Geographic Information Systems (GIS) data of the jurisdictional delineation for the City Property site was provided by the City of Long Beach on March 24, 2016 and is depicted on Exhibit 5F. The GIS files label all of the areas shown on Exhibit 5F as wetland, without distinguishing between three criteria wetlands as defined by the Corps or wetlands defined by the Coastal Act. As such, this report assumes that the City-mapped wetlands are subject to Corps jurisdiction pursuant to Section 404 of the Clean Water Act and wetlands as defined under the Coastal Act. It is also assumed that the area of southern coastal brackish marsh within the

central portion of the site is also jurisdictional to the CDFW as a vegetated pond. Table 4-11 below describes the potential jurisdiction on the City Property site and Table 4-11.1 describes "off-site" potential jurisdiction within the City's right-of-way.

There are no areas on the site that are subject to Corps jurisdiction pursuant to Section 10 of the Rivers and Harbors Act as the site is permanently cutoff from any potential tidal influence and "navigability" as defined by the Corps.

Based on the data of the jurisdictional delineation provided by the City, 21.04 acres of potential Corps jurisdiction, all of which are assumed to be wetland, 5.07 acres of vegetated CDFW jurisdiction, and 21.04 acres of wetlands as defined by the Coastal Act occur on site. Within the off-site area of the City's right-of-way, 0.89 acre of potential Corps jurisdiction, all of which are assumed to be wetland and 0.89 acre of wetlands as defined by the Coastal Act occur. The southern coastal brackish marsh off-site is not associated with the marsh in the central portion of the site and is not considered CDFW jurisdiction.

Table 4-11:
Corps – Potential Section 404 Jurisdiction (acres)
CDFW – Potential Section 1602 Jurisdiction (acres)
CCC – Potential Wetlands Defined under the Coastal Act (acres)
City Property Site

	Corps		**CDFW**		**CCA**
Wetland Habitat	Wetland	Non-Wetland	Channel	Riparian (vegetated pond)	Wetland
Alkali Meadow	7.37	0.0	0.0	0.0	7.37
Mulefat Scrub	1.54	0.0	0.0	0.0	1.54
Ruderal Wetlands	2.42	0.0	0.0	0.0	2.42
Salt Flat	0.64	0.0	0.0	0.0	0.64
Southern Coastal Brackish Marsh	6.58	0.0	0.0	5.07	6.58
Southern Coastal Salt Marsh	2.21	0.0	0.0	0.0	2.21
Southern Willow Scrub	0.28	0.0	0.0	0.0	0.28
Total	**21.04**	**0.0**	**0.0**	**5.07**	**21.04**

*Total acreage may not equal sum of individual fields due to rounding.

Table 4-11.1: Corps – Potential Section 404 Jurisdiction (acres) CDFW – Potential Section 1602 Jurisdiction (acres) CCC – Potential Wetlands Defined under the Coastal Act (acres) City Property Site (Off-Site in City's Right-of-Way)					
	Corps		**CDFW**		**CCA**
Wetland Habitat	Wetland	Non-Wetland	Channel	Riparian (vegetated pond)	Wetland
Mulefat Scrub	0.03	0.0	0.0	0.0	0.03
Ruderal Wetlands	0.39	0.0	0.0	0.0	0.39
Southern Coastal Brackish Marsh	0.47	0.0	0.0	0.0	0.47
Total	**0.89**	**0.0**	**0.0**	**0.0**	**0.89**

*Total acreage may not equal sum of individual fields due to rounding.

5.0 IMPACT ANALYSIS

The following discussion examines the potential impacts to plant and wildlife resources that may occur as a result of implementation of the proposed project. Due to the complex nature and numerous components of the project, the description provided herein may be modified as the project is reviewed. As shown on Exhibit 3, the proposed project will occur on all four properties and consists of:

Synergy Oil Field site: The proposed project would separate the Synergy Oil Field into two phases. Phase 1 would establish the Upper Los Cerritos Wetlands Mitigation Bank and public access trail on the northerly 76.52 acres of the Synergy Oil Field (formerly known as the Bixby Oil Field). Phase 2 would occur on the southerly 73.07 acres of the Synergy Oil Field. Within the Phase 2 area, the project would implement public access improvements on 1.28 acres, including a trail that would connect to the trail on the Mitigation Bank, a parking lot on existing disturbed areas and relocating and converting an existing building for use as a visitors' center. The removal of oil facilities such as above-ground pipelines and tanks would occur throughout the Phase 2 area, along with the removal and abandonment of 39 oil wells over time. A revegetation plan for the Phase 2 area would be implemented upon removal of the oil facilities. The remaining 0.54 acre within the project boundary would be developed as eight to ten-foot wide sidewalks added along the perimeter of the Synergy Oil Field on Pacific Coast Highway, 2nd Street, and Studebaker Road. The sidewalks would extend offsite into the City's right-of-way for 0.81 acre.

It is important to recognize that one of the primary purposes of the proposed project is to restore portions of the Los Cerritos Wetlands, and the project proposes to do so by establishing a mitigation bank on the Phase 1 area of the Synergy Oil Field. The mitigation bank will provide for re-establishment of tidal coastal salt marsh plus rehabilitation, enhancement, and preservation of coastal salt marsh and other vegetation communities. The term "Reestablishment" is defined by the Corps as:

> *The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/ historic functions to a former aquatic resource.* ***Re-establishment results in rebuilding a former aquatic resource*** *and results in a gain in aquatic resource area and functions.* [Emphasis added].

In order to accomplish this, GLA has designed the *Restoration Plan for the Upper Los Cerritos Wetlands Mitigation Bank* to minimize to the extent practicable impacts to existing jurisdictional wetlands; however, in order to re-establish tidal influence within the Phase 1 area, grading (i.e., "manipulation") is a necessary component of the work plan. Impacts associated with the tidal salt marsh re-establishment are limited to: 1) grading that is necessary to restore degraded areas through the re-introduction of tidal influence to substantial portions of the Phase 1 area, and 2) for construction of a vegetated berm and installation of a sheet pile, both of which are necessary to contain tidal flows within the Phase 1 mitigation bank area.

Pumpkin Patch site: The proposed project would construct an approximately 5,200-square-foot, two-story office building 35 feet in height and an approximately 9,750 square feet of storage/warehouse 22 feet in height, and a 35-space parking area on approximately five acres of the southwest portion of the site. Additionally, a portion of the oil production activities currently being conducted at the Synergy Oil Field will be developed on the Pumpkin Patch site. The project proposes the development of three oil well cellars which will house up to a maximum of 50 wells (oil production and water injection), and construction of two tanks: a 3,000 barrel "wet oil" tank (30 feet in diameter and 24 feet high), and a 2,000-barrel "skim oil" tank (24 feet in diameter and 24 feet high). A drill rig, approximately 160 feet in height will be used on-site to initially drill the wells. A workover rig, approximately 120 feet in height will be brought onsite to re-drill wells as necessary. A 22-foot wall will be constructed on the perimeter of the site. As noted above, this area includes two seasonal depressions that the jurisdictional delineation did not identify as wetlands under the Clean Water Act or CCA. However, should these depressions be determined to be CCA wetlands, the proposed project would impact 0.03 acre. The remaining approximately two acres of the site in the northeast would be avoided. One oil well located within the avoided two-acre area would be removed and abandoned in the same manner as the wells on the Synergy Oil Field. Adjoining the Pumpkin Patch site to the north is a 0.83-acre undeveloped parcel that is currently within the City's right-of-way. The proposed project would implement street improvements to this offsite parcel in order to provide access into the Pumpkin Patch site and would add a 16-foot wide sidewalk along the southern boundary of the offsite parcel. Repairs would be made to the existing sidewalk along the segment of Pacific Coast Highway adjacent to the Pumpkin Patch site, within the City's right-of-way.

Los Cerritos Wetlands Authority (LCWA) site: The project proposes to develop up to a maximum of 70 wells (oil production and water injection) in three well cellars to be constructed on approximately four acres of the LCWA site. In addition to the wells, the project proposes the construction of two oil tanks (a 28,000 barrel sales oil tank 70 feet in diameter and 48 feet high and a 5,000-barrel injection water tank 35 feet high and 32 feet in diameter) and three natural-gas-powered turbines that will be used to generate power for the oil production operations on both the LCWA and Pumpkin Patch sites. A drill rig, approximately 160 feet in height, will be used on-site to initially drill the wells. A workover rig, approximately 120 feet in height will be brought on site to re-drill wells as necessary. A 15- to 20-foot-high ground flare will also be built

on-site. To convey oil from the Pumpkin Patch site to the LCWA site, an underground pipeline will be jack and bored beneath the two sites. Ten-foot wide sidewalks would be added to the LCWA site along 2nd Street and Studebaker Road.

City Property site: The proposed project would remove oil facilities such as above-ground pipelines and tanks throughout the City-owned property. Over time, the proposed project would remove and abandon 13 oil wells currently being operated by Synergy on the approximately 33-acre City-owned property. A revegetation plan for the City-owned property would be implemented upon removal of the oil facilities. In order to connect the new oil production operations on the Pumpkin Patch and LCWA sites and to minimize truck traffic transporting produced oil, a new above-ground pipeline network would be constructed on the City Property site within a 40-foot-wide corridor. The pipeline would be sited primarily on existing oil field roads and developed areas; however, the existing oil field roads would need to be permanently widened to a total width of approximately 28 feet within the pipeline corridor to accommodate both the pipeline network and vehicular access. Off site, a 10-foot wide sidewalk comprising 0.95 acre would be added along 2nd Street. Segments of the pipeline traverse off site within the City's right-of-way through the intersection at 2nd Street and Studebaker Road (underground) and at the southern end prior to entering the Pumpkin Patch site.

Project-related impacts can occur in two forms, direct and indirect. Direct impacts are considered to be those that involve the loss, modification or disturbance of plant communities, which in turn, directly affect the flora and fauna of those habitats. Direct impacts also include the destruction of individual plants or wildlife, which may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and population stability.

Other impacts, such as loss of foraging habitat, can occur although these areas or habitats are not directly removed by project activity, i.e., indirect impacts. Indirect impacts can also involve the effects of increases in ambient levels of noise or light, unnatural predators (i.e., domestic cats and other non-native animals), competition with exotic plants and animals, and increased human disturbance. Indirect impacts may be associated with the subsequent day-to-day activities associated with some projects, such as increased traffic use, permanent concrete barrier walls or chain-link fences, exotic ornamental plantings that provide a local source of seed, etc., which may be both short-term and long-term in their duration. These impacts are commonly referred to as "edge effects" and may result in a slow replacement of native plants by exotics, and changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to project sites.

The potential for significant adverse effects, either directly or indirectly, on any special-status plant, animal, or habitat that could occur as a result of project implementation is discussed below.

5.1 California Environmental Quality Act

5.1.1 Thresholds of Significance

Environmental impacts relative to biological resources are assessed using impact significance threshold criteria, which reflect the policy statement contained in CEQA, Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the State of California:

> *"Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities..."*

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to CEQA, Section 15064.7 (Thresholds of Significance), each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources CEQA provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect where:

> *"The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species, ..."*

Therefore, for the purpose of this analysis, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the following criteria discussed below would result from implementation of the proposed project. As addressed in the impact analysis below, it is important to note that there would be no significant impacts in accordance with sub-paragraphs (d – f) below.

Criteria for Determining Significance Pursuant to CEQA

Appendix G of the 1998 State CEQA guidelines indicate that a project may be deemed to have a significant effect on the environment if the project is likely to:

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

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

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

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.2 Impacts to Vegetation Associations

5.2.1 Synergy Oil Field

5.2.1.1 Phase 1 Mitigation Bank Area

Within the 76.52-acre Phase 1 Mitigation Bank area, direct impacts would be limited to grading necessary to reintroduce tidal flows, construction of a berm and sheet pile to contain the re-established tidal flows, construction of the trail, and temporary impacts associated with sidewalk construction. All impacts to wetland alliances associated with grading, berm installation, overlook terrace fill, berm/road removal, and sidewalk grading total 7.27 acres (9 percent of the entire Phase 1 area) and would be considered temporary given that the areas to be disturbed as part of these activities would be restored to salt marsh or other native habitat. Of the 7.27 acres of temporary impacts to wetland alliances, 2.16 acres, or 30 percent, would occur to unvegetated flats.

Sheet pile and trail installation are accounted for as permanent impacts; however, the amount of wetlands to be impacted by these activities is extremely limited, totaling 0.03 acre (less than one quarter of one percent of the entire Phase 1 area) and result from sheet pile installation only. Of the 0.03 acre of permanent impacts to wetland alliances, 0.02 acre, or 66 percent, occurs to unvegetated flats. During construction of the sheet pile wall, it is very likely that the 0.02-acre vegetated wetland areas will actually be avoided based on in-field placement of the wall to position it over existing disturbed areas. The pedestrian trail to be constructed along the eastern portion of the site, parallel with Studebaker Road, will be approximately six feet wide with a

decomposed granite surface. At the northern terminus of the trail, an overlook terrace will be provided to allow for the full view of the restored wetlands at the highest elevation on the site.

Overall, there would be no loss of habitat; rather, there would be an increase in wetland habitats both in terms of areal extent and function. The trail would be signed in several places to inform the public of the sensitive habitats within the Phase 1 Mitigation Bank area and to prohibit off trail access. The trail would be separated from the wetland areas to the west by almost 100 feet of native upland buffer. Complete details of each activity associated with restoring the wetlands in the Phase 1 Mitigation Bank area, including long-term management of the site, are provided in the *Upper Los Cerritos Wetlands Mitigation Bank Restoration Plan.*

Tables 5-1 and 5-2 and Exhibit 4A summarize permanent and temporary impacts to vegetation alliances on the Synergy Oil Field for the Phase 1 Mitigation Bank area. Significant impacts were determined based upon the rarity rankings in the CNDDB, with alliances designated as S3, S2 or S1 as potentially significant based on current condition and area impacted. Areas designated as S3, S2, or S1 to be temporarily impacted include alkali heath marsh, California cordgrass marsh, Parish's glasswort patches and pickleweed mats. No other alliances have special status based on the CNDDB rankings.

Table 5.1: Permanent Vegetation Impacts
Associated with Grading and Construction of Restoration Areas (Acres)
Synergy Oil Field – Phase 1

Upland Alliances	*Sheet pile Wall*	*Trail*
Coyote Brush Scrub	0.00	0.00
Disturbed/Developed	0.05	0.02
Ice Plant Mats	0.00	0.001
Five-Horn Smotherweed Thickets	0.00	0.001
London Rocket Fields	0.00	0.14
Menzie's goldenbush scrub	0.00	0.00
Mulefat Thickets	0.00	0.03
Non-Native Annual Grassland	0.01	0.28
Ornamental	0.00	0.002
Unvegetated Flats	0.00	0.00
Yellow Star Thistle Fields (tocalote)	0.00	0.04
Upland Alliances Subtotal by Alliance	***0.06***	***0.51***
Upland Alliances Subtotal	***0.57***	
Wetland Alliances		
Alkali Heath Flats (Non-Tidal)	0.00	0.00
Alkali Weed-Saltgrass Flats	0.00	0.00
Black Willow Forest	0.00	0.00
California Cordgrass Marsh	0.00	0.00
Cattail Marshes	0.00	0.00
Mudflats	0.00	0.00
Parish's Glasswort Patches	0.001	0.00

Pickleweed Mats	0.002	0.00
Saltgrass Flats	0.01	0.00
Shoregrass Flats	0.0	0.00
Unvegetated Flat (Non-Tidal)	0.02	0.00
Tidal Channel	0.0	0.00
Wetland Alliances Subtotal by Alliance	***0.03***	***0.00***
Wetland Alliances Subtotal	***0.03***	
Grand Total by Alliance	***0.09***	***0.51***
Grand Total	**0.60**	

*Acreages are rounded to the nearest 1/100th, where possible. Acreages not registering to the thousandths place are not included in this table. Total acreage may not equal sum of individual fields due to rounding.

Table 5-2: Temporary Vegetation Impacts Associated with Grading and Construction of Restoration Areas (Acres) Synergy Oil Field – Phase 1

Upland Alliances	*Transitional Wetland Grading*	*Tidal Channel Grading*	*Seawall Berm*	*Overlook Terrace*	*Berm/Road Removal*	*Sidewalk Grading*
Coyote Brush Scrub	0.00	0.01	0.00	0.08	0.00	0.01
Disturbed/Developed	0.06	0.00	0.04	0.03	0.46	0.01
Five-Horn Smotherweed Thickets	0.91	0.00	0.07	0.00	0.00	0.00
Ice Plant Mats	0.87	0.00	0.00	0.03	0.07	0.003
Ice Plant/Pickleweed	0.0	0.12	0.00	0.00	0.00	0.00
London Rocket Fields	0.00	0.00	0.00	0.00	0.00	0.02
Menzie's goldenbush scrub	0.00	0.00	0.03	0.00	0.04	
Mulefat Thickets	0.00	0.00	0.0	0.09	0.00	0.32
Annual Non-Native Grassland	0.03	0.51	0.08	0.01	0.01	0.06
Ornamental	0.06	0.02	0.01	0.01	0.00	0.15
Unvegetated Flats	2.24	0.21	0.00	0.02	0.22	0.00
Yellow Star Thistle Fields	0.33	0.00	0.00	1.28	0.00	0.02
Upland Alliances Subtotal by Category	***4.51***	***0.87***	***0.23***	***1.56***	***0.80***	***0.59***
Upland Alliances Subtotal	**8.56**					
Wetland Alliances						
Alkali Heath Flats (Non-Tidal)	0.13	0.00	0.00	0.00	0.00	0.00
California Cordgrass Marsh	0.00	0.00	0.00	0.00	0.01	0.00
Mudflats	0.00	0.02	0.00	0.00	0.00	0.00
Parish's Glasswort Patches	0.09	1.14	0.58	0.00	0.35	0.00
Pickleweed Mats	0.67	0.47	0.25	0.04	0.07	0.00
Saltgrass Flats	0.00	0.04	0.85	0.00	0.00	0.00

Shoregrass Flats	0.29	0.00	0.00	0.00	0.00	0.00
Unvegetated Flats	0.00	1.78	0.38	0.00	0.00	0.00
Tidal Channel	0.00	0.08	0.00	0.00	0.02	0.00
Wetland Alliances Subtotal by Category	***1.18***	***3.54***	***2.06***	***0.04***	***0.45***	**0.00**
Wetland Alliances Subtotal	**7.27**					
Grand Total by Category	***5.69***	***4.41***	***2.29***	***1.59***	***1.25***	**0.59**
Grand Total	**15.82**					

*Acreages are rounded to the nearest 1/100th, where possible. Acreages not registering to the thousandths place are not included in this table. Total acreage may not equal sum of individual fields due to rounding.

5.2.1.2 Phase 2 Area

On the southerly 73.07-acre Phase 2 area on the Synergy Oil Field, the project would implement public access improvements on 1.28 acres, including a trail on existing earthen access roads that would connect to the trail on the Mitigation Bank, a parking lot on existing disturbed areas, and relocating and converting an existing building for use as a visitors' center. Sidewalks would also be added around the perimeter of the Phase 2 area, and all temporarily disturbed areas would be restored upon completion. Table 5-3 describes the temporary impacts associated with sidewalk grading. Permanent impacts related to sidewalks are not included in this section and are described below. The removal of oil facilities such as above-ground pipelines and tanks would occur throughout the Phase 2 area, along with the removal and abandonment of 39 oil wells over time. A revegetation plan for the Phase 2 area would be implemented upon removal of the oil facilities. [Exhibit 4A]. The disturbed and developed areas comprise the existing paved entry road from 2nd Street up to the Bixby Ranch office building, unpaved and compacted parking and storage areas, earthen compacted access road on which the trail would be placed, the existing Bixby Ranch office building, and areas along the perimeter where the sidewalk would be constructed. From the new parking lot and trail head, access to the trail that extends to the east onto the Phase 1 Mitigation Bank Area would be provided on the existing compacted earthen road. To secure the existing oil field, fencing may be installed along all public access improvement areas (i.e., access road from 2nd Street and parking lot) that interface with the oil field. All of the public access improvements would occur on existing disturbed areas; no vegetation would be impacted.

The removal of oil facilities such as above-ground pipelines and tanks would also occur throughout the Phase 2 area. Approximately 66,000 linear feet of above-ground pipelines and racks are sited throughout the Phase 2 area, many of which occur over wetland areas, and the project will remove approximately 95 percent of these facilities. The pipelines and racks would be cut and removed/pulled by hand onto the adjacent earthen road network located throughout the site. Plastic tarps would be laid beneath the pipelines prior to removal to collect any pieces of the pipe that may come apart during the removal process and prevent them from falling into the wetlands. Once on the roads, the pipes may be further cut into smaller segments and loaded onto trucks by small equipment such as a bobcat for disposal offsite. No equipment would be driven onto vegetated wetland areas; only access on foot would occur within vegetated wetland areas. The disturbance area associated with removal of the two tank farms will not exceed the

existing disturbed pad surrounding the tanks. The tank farms are located on unvegetated disturbed pads and surrounded by existing earthen roads. All tank-related materials would be loaded onto trucks for disposal offsite. Based on the method of pipeline, rack, and tank removal, and the already disturbed areas that would be used to facilitate the removals, no impact to wetland vegetation is expected to occur. However, in the event that inadvertent and temporary impacts to wetland vegetation occur, the Applicant would restore the impacted area by removing any material that was not present prior and reseeding, as necessary, any area where vegetation has been significantly affected.

As part of the proposed project, 39 oil wells would be removed and abandoned over time. The removal and abandonment of oil wells are triggered in two distinct ways: production and time. With respect to production, any of the 39 oil wells operated in the Bixby A Oil Lease that produces less than one full barrel of oil per day for a period of 18 consecutive months would be removed and abandoned in accordance with the abandonment guidelines set for by the Department of Conservation's Division of Oil, Gas, and Geothermal Resources (DOGGR). With respect to time, completion and occupancy of the new oil operating areas on the Pumpkin Patch and LCWA sites and completion and occupancy of the office facility on the Pumpkin Patch site are referred to as the "New Occupancy Date." On or before the 20-year anniversary of the New Occupancy Date, 50 percent of the 39 wells operated in the Bixby A Oil Lease would be removed and abandoned in accordance with the abandonment guidelines set forth by the DOGGR. The balance of all remaining wells owned and operated by Synergy in the Bixby A Oil Lease would be completely removed on or before the 40-year anniversary from the New Occupancy Date. Based on the guidelines set forth for removal by DOGGR and the already disturbed areas that surround the wells that would be used to facilitate the removals, no impact to wetland vegetation is expected to occur. However, in the event that inadvertent and temporary impacts to wetland vegetation occur, the Applicant would restore the impacted area by removing any material that was not present prior and reseeding, as necessary, any area where vegetation has been significantly affected.

Once the above-ground pipelines and tanks are removed from the Phase 2 area, and as each of the 39 oil wells are removed and abandoned over time, all unvegetated disturbed pads surrounding the pipelines, tanks, and oil wells may be revegetated with a native upland seed mix comprising coyote brush, goldenbush, western ragweed (*Ambrosia psilostachya*), and bush sunflower (*Encelia californica*). The native shrub cover will enhance the appearance of the oil field, help suppress the invasion of non-native species, while also providing erosion control. If there is excess dirt generated during the grading of tidal channels in in the Phase 1 area, the excess material may be stockpiled on the existing disturbed roads or pads where tank farms have been removed. Finally, once all oil wells have been removed and abandoned within the Bixby A Oil Lease on the Synergy Oil Field, a comprehensive wetland restoration plan for the Phase 2 area would be developed.

Table 5-3. Summary of Direct Vegetation Impacts: Synergy Oil Field – Phase 2 – Temporary Sidewalk	
Upland Alliances	*Acres*
Disturbed	0.08
Ice Plant Mats	0.05
Mulefat Thickets	0.08
Non-Native Annual Grassland	0.68
Ornamental	0.55
Upland Alliances Subtotal	*1.44*
Wetland Alliances	*Acres*
Alkali Heath Flats	0.02
Black Willow	0.01
Cattail Marshes	0.03
Pickleweed Mats	0.27
Saltgrass Flats	0.19
Wetland Alliances Subtotal	*0.52*
Grand Total	**1.96**

*Acreages are rounded to the nearest 1/100th, where possible. Acreages not registering to the thousandths place are not included in this table. Total acreage may not equal sum of individual fields due to rounding.

5.2.1.3 Sidewalks

At the request of the City, eight to ten-foot wide sidewalks would be added along the perimeter of the Synergy Oil Field on Pacific Coast Highway, 2nd Street, and Studebaker Road. Within the Synergy Oil Field, the sidewalks would comprise 0.54 acre of permanent impact (i.e., concrete), as described below in Table 5-4.

Table 5-4. Summary of Direct Vegetation Impacts: Synergy Oil Field – Permanent Sidewalk	
Upland Alliances	*Acres*
Disturbed	0.13
Mulefat Thickets	0.08
London Rocket Fields	0.003
Non-Native Annual Grassland	0.19
Ornamental	0.11
Yellow Star Thistle Fields	0.003
Upland Alliances Subtotal	*0.52*

Table 5-4. Summary of Direct Vegetation Impacts: Synergy Oil Field – Permanent Sidewalk	
Wetland Alliances	*Acres*
Pickleweed Mats	0.002
Saltgrass Flats	0.01
Wetland Alliances Subtotal	*0.01*
Grand Total	**0.54**

*Acreages are rounded to the nearest 1/100th, where possible. Acreages not registering to the thousandths place are not included in this table. Total acreage may not equal sum of individual fields due to rounding.

A portion of the eight to ten-foot sidewalks along the Synergy Oil Field extend off site into the City's right-of-way as described below in Table 5-5. Temporary grading impacts for the off-site sidewalks are described below in Table 5-6. All off-site impacts are to upland alliances.

Table 5-5. Summary of Direct Vegetation Impacts: Synergy Oil Field (Off-Site in City's Right-of-Way) – Permanent Sidewalk	
Upland Alliances	*Acres*
Disturbed	0.63
Fountain Grass	0.01
Mulefat Thickets	0.02
Non-Native Annual Grassland	0.03
Ornamental	0.08
Total	**0.77**

*Acreages are rounded to the nearest 1/100th, where possible. Acreages not registering to the thousandths place are not included in this table. Total acreage may not equal sum of individual fields due to rounding.

Table 5-6. Summary of Direct Vegetation Impacts: Synergy Oil Field (Off-Site in City's Right-of-Way) – Temporary Sidewalk	
Upland Alliances	*Acres*
Disturbed	0.02
Fountain Grass	0.01
Non-Native Annual Grassland	0.01
Ornamental	0.01
Total	**0.05**

*Acreages are rounded to the nearest 1/100th, where possible. Acreages not registering to the thousandths place are not included in this table. Total acreage may not equal sum of individual fields due to rounding.

5.2.2 Pumpkin Patch Site

The northeast lower portion of the Pumpkin Patch Site supports approximately 0.55 acre of pickleweed mats, which has an S3 ranking, and is considered a special-status habitat. However, this alliance would not be affected by project grading and in fact, will be set back from the edge of development by 100 feet. A permanent fence/wall will be installed along the 100-foot setback, such that no direct impacts to wetland vegetation alliances or special-status habitats would affect the northeast lower portion of the site. Approximately 550 linear feet of pipeline and one existing oil well located in the northeast lower portion of the site will be removed and abandoned in the same manner as discussed above on the Synergy Oil Field. This well is surrounded by existing disturbed roads and the removal of it in accordance with DOGGR guidelines will not impact the adjacent wetland vegetation. Once the well is removed and abandoned over time, the unvegetated disturbed pad surrounding it will be revegetated with a native upland seed mix comprising coyote brush, goldenbush, western ragweed, and bush sunflower. The pipelines and racks will be cut and removed/pulled by hand onto the adjacent earthen road network located adjacent to the pipelines. Plastic tarps will be laid beneath the pipelines prior to removal to collect any pieces of the pipe that may come apart during the removal process and prevent them from falling into the wetlands. Once on the roads, the pipes may be further cut into smaller segments and loaded onto trucks by small equipment such as a bobcat for disposal offsite. No equipment will be driven onto vegetated wetland areas; only access on foot will occur within vegetated wetland areas. Based on the method of pipeline, rack, and tank removal, and the already disturbed areas that would be used to facilitate the removals, no impact to wetland vegetation is expected to occur. However, in the event that inadvertent and temporary impacts to wetland vegetation occur, the Applicant will restore the impacted area by removing any material that was not present prior and reseeding, as necessary, any area where vegetation has been significantly affected. Table 5-7 and Exhibit 4B summarize impacts to vegetation alliances on the Pumpkin Patch Site.

On the upper portion of the site, grading would occur within the 0.03-acre seasonal depressions that are vegetated by a mix of native and non-native species. Should this area be determined to be a CCA wetland, prior to any disturbance of this area, compliance with CCA Section 30233 would be required.

Indirect impacts to the pickleweed mats related to ongoing operations of the new oil facility will be minimized by the 100-foot setback from development. Other minimization measures, including lighting, are discussed below in Section 6.

Table 5-7. Summary of Direct Vegetation Impacts: Pumpkin Patch

Upland Alliances	*Acres*
Disturbed (including 0.03 acre of seasonal depressions)	5.62
Ice Plant Mats	0.28
Annual Non-Native Grassland	0.002
Ornamental	0.02
Upland Alliances Subtotal	***5.90***

Table 5-7. Summary of Direct Vegetation Impacts: Pumpkin Patch	
Wetland Alliances	*Acres*
Pickleweed Mats	0.00
Unvegetated Flats (Wetland)	0.00
Wetland Alliances Subtotal	***0.00***
Grand Total	**5.90**

*Acreages are rounded to the nearest 1/100th, where possible. Acreages not registering to the thousandths place are not included in this table. Total acreage may not equal sum of individual fields due to rounding.

5.2.3 LCWA Site

The LCWA site contains no special-status vegetation alliances and there are no significant impacts to vegetation alliances associated with work on the LCWA site. Table 5-8 and Exhibit Exhibit 4C summarize impacts to upland vegetation alliances on the LCWA Site.

Table 5-8. Summary of Direct Vegetation Impacts: LCWA Site	
Upland Alliances	*Acres*
Disturbed/Developed	3.11
Mulefat Scrub	0.10
Annual Non-Native Grassland	0.26
Ornamental	0.60
Grand Total	**4.07**

*Acreages are rounded to the nearest 1/100th, where possible. Acreages not registering to the thousandths place are not included in this table. Total acreage may not equal sum of individual fields due to rounding.

5.2.4 City Property Site

Exhibit 4D depicts the impacts to vegetation alliances on the City Property Site. Similar to the Phase 2 area on the Synergy Oil Field, the removal of oil facilities such as above-ground pipelines and tanks would also occur on the City Property site. Approximately 20,000 linear feet of above-ground pipelines and racks on the City Property Site would be removed, with some of these pipelines occurring over wetland areas. The pipelines and racks will be cut and removed/pulled by hand onto the adjacent earthen road network located throughout the site. Plastic tarps will be laid beneath the pipelines prior to removal to collect any pieces of the pipe that may come apart during the removal process and prevent them from falling into the wetlands. Once on the roads, the pipes may be further cut into smaller segments and loaded onto trucks by small equipment such as a bobcat for disposal offsite. No equipment will be driven onto vegetated wetland areas; only access on foot will occur within vegetated wetland areas. The disturbance area associated with removal of the one tank farm will not exceed the existing disturbed footprint surrounding the tanks. The tanks are located on unvegetated pads and surrounded by existing earthen roads. All tank-related materials will be loaded onto trucks for

disposal offsite. Based on the method of pipeline, rack, and tank removal, and the already disturbed areas that would be used to facilitate the removals, no impact to wetland vegetation is expected to occur. However, in the event that inadvertent and temporary impacts to wetland vegetation occur, the Applicant will restore the impacted area by removing any material that was not present prior and reseeding, as necessary, any area where vegetation has been significantly affected.

As part of the proposed project, 13 oil wells will be removed and abandoned over time. Exhibit 4D depicts the locations of oil wells within wetland alliances; however, the locations where the wells occur are actually disturbed (but immediately adjacent to wetland alliances) and can be verified using aerial imagery. The removal and abandonment of oil wells are triggered in the same manner as they are on the Synergy Oil Field. Based on the guidelines set forth for removal by DOGGR and the already disturbed areas that surround the wells that would be used to facilitate the removals, no impact to wetland vegetation is expected to occur. However, in the event that inadvertent and temporary impacts to wetland vegetation occur, the Applicant will restore the impacted area by removing any material that was not present prior and reseeding, as necessary, any area where vegetation has been significantly affected.

Once the above-ground pipelines and tank are removed, and as each of the 13 oil wells are removed and abandoned over time, all unvegetated disturbed pads surrounding the pipelines, tank, and oil wells, as well as any area temporarily affected during the removals, will be revegetated with a native upland seed mix comprising coyote brush, goldenbush, western ragweed (*Ambrosia psilostachya*), and bush sunflower (*Encelia californica*). The native shrub cover will enhance the appearance of the oil field, help suppress the invasion of non-native species, while also providing erosion control.

In order to connect the new oil production operations on the Pumpkin Patch and LCWA sites and to minimize truck traffic transporting produced oil, a new above-ground pipeline network supplying oil, gas, power, and water lines would be constructed on the City Property site within a 40-foot-wide corridor. The corridor would provide sufficient area to accommodate construction of the above-ground layout of pipeline and earthen access road. Within the corridor, an earthen berm up to approximately 18" high would be installed on each side of the pipeline and would be designed to contain the estimated spill volume in the unlikely event of a pipeline spill or rupture. The pipeline corridor would be sited primarily on existing oil field roads and developed areas; however, the existing oil field roads would need to be permanently widened to a total width of approximately 28 feet within the pipeline corridor to accommodate both the pipeline network and vehicular access.

Off site, a 10-foot wide sidewalk would be added along 2nd Street. Segments of the pipeline traverse off site within the City's right-of-way through the intersection at 2nd Street and Studebaker Road (underground) and at the southern end prior to entering the Pumpkin Patch site. Table 5-9 describes the impacts associated with construction of the pipeline corridor, which are considered as permanent impacts. Tables 5-10 and 5-11 describe the permanent and temporary impacts associated with the sidewalks.

Table 5-9. Summary of Direct Vegetation Impacts City Property Site – Pipeline Corridor	
Upland Alliances:	*Acres*
Development	0.12
Ornamental	0.05
Ice Plant Mats	0.01
Annual Non-native Grassland	0.01
Ruderal Uplands (e.g., *Carpobrotus edulis* or Other Ice Plants Semi-Natural Herbaceous Stands (Ice plant mats and/or *Bassia hyssopifolia* Semi-Natural Herbaceous Stands Five-horn smotherweed thickets)	0.30
Vegetation Free Zone (Unvegetated Flats (Upland))	1.14
Upland Alliances Subtotal	*1.63*
Wetland Alliances:	*Acres*
Mulefat Scrub (*Baccharis salicifolia* Shrubland Alliance (Mulefat Thickets))(G5S4)	0.02
Ruderal Wetlands (*Bassia hyssopifolia* Semi-Natural Herbaceous Stands Five-horn smotherweed thickets). In addition, some areas mapped as Ruderal Wetlands consist of *Cress truxillensis–Distichlis spicata* Herbaceous Alliance (Alkali weed – saltgrass flats)(G4S4)	0.14
Southern Coastal Brackish Marsh (*Typha domingensis* – Herbaceous Alliance (Cattail Marshes))(G5S5). Includes areas also containing pickleweed mats and saltgrass flats.	0.001
Alkali Meadow (*Frankenia salina* Herbaceous Alliance (Alkali heath marsh)(G4S3) and or *Distichlis spicata* Herbaceous Alliance (Saltgrass Flats))(G5S4)	0.15
Wetland Alliances Subtotal	0.31
Grand Total	**1.94**

*Acreages are rounded to the nearest 1/100th, where possible. Acreages not registering to the thousandths place are not included in this table. Total acreage may not equal sum of individual fields due to rounding.

Table 5-10. Summary of Direct Vegetation Impacts City Property Site (Off-Site in City's Right-of-Way) – Permanent Sidewalk	
Upland Alliances:	*Acres*
Ruderal Uplands (e.g., *Carpobrotus edulis* or Other Ice Plants Semi-Natural Herbaceous Stands (Ice plant mats and/or *Bassia hyssopifolia* Semi-Natural Herbaceous Stands Five-horn smotherweed thickets)	0.01
Vegetation Free Zone (Unvegetated Flats (Upland))	0.004
Upland Alliances Subtotal	*0.01*
Wetland Alliances	*Acres*
Mulefat Scrub (Baccharis salicifolia Shrubland Alliance (Mulefat Thickets))(G5S4)	0.01
Ruderal Wetlands	0.08

Table 5-10. Summary of Direct Vegetation Impacts City Property Site (Off-Site in City's Right-of-Way) – Permanent Sidewalk	
(Bassia hyssopifolia Semi-Natural Herbaceous Stands Five-horn smotherweed thickets). In addition, some areas mapped as Ruderal Wetlands consist of Cress truxillensis–Distichlis spicata Herbaceous Alliance (Alkali weed – saltgrass flats)(G4S4)	
Southern Coastal Brackish Marsh (Typha domingensis – Herbaceous Alliance (Cattail Marshes))(G5S5). Includes areas also containing pickleweed mats and saltgrass flats.	0.06
Wetland Alliances Subtotal	*0.15*
Grand Total	**0.16**

*Acreages are rounded to the nearest 1/100th, where possible. Acreages not registering to the thousandths place are not included in this table. Total acreage may not equal sum of individual fields due to rounding.

Table 5-11. Summary of Direct Vegetation Impacts City Property Site (Off-Site in City's Right-of-Way) – Temporary Sidewalk	
Upland Alliances:	*Acres*
Ruderal Uplands (e.g., *Carpobrotus edulis* or Other Ice Plants Semi-Natural Herbaceous Stands (Ice plant mats and/or *Bassia hyssopifolia* Semi-Natural Herbaceous Stands Five-horn smotherweed thickets)	0.04
Vegetation Free Zone (Unvegetated Flats (Upland))	0.01
Upland Alliances Subtotal	*0.05*
Wetland Alliances	*Acres*
Mulefat Scrub (Baccharis salicifolia Shrubland Alliance (Mulefat Thickets))(G5S4)	0.02
Ruderal Wetlands (Bassia hyssopifolia Semi-Natural Herbaceous Stands Five-horn smotherweed thickets). In addition, some areas mapped as Ruderal Wetlands consist of Cress truxillensis–Distichlis spicata Herbaceous Alliance (Alkali weed – saltgrass flats)(G4S4)	0.31
Southern Coastal Brackish Marsh (Typha domingensis – Herbaceous Alliance (Cattail Marshes))(G5S5). Includes areas also containing pickleweed mats and saltgrass flats.	0.41
Wetland Alliances Subtotal	*0.74*
Grand Total	**0.79**

*Acreages are rounded to the nearest 1/100th, where possible. Acreages not registering to the thousandths place are not included in this table. Total acreage may not equal sum of individual fields due to rounding.

5.3 Impacts to Special-Status Plants

One special-status plant would be impacted by the proposed project: southern tarplant at the Synergy Oil Field and Pumpkin Patch Site. Estuary seablite and wooly seablite at the Synergy Oil Field would be avoided as would the southern tarplant on the City Property site.

5.3.1 Synergy Oil Field

Southern Tarplant

5.3.1.1 Phase 1 Mitigation Bank Area

Grading for the Phase 1 Mitigation Bank Area will impact one population of southern tarplant east of Steamshovel Slough [Exhibit 7A]. Grading would impact an estimated 6,000 individuals as counted during 2016, which accounts for approximately 2.2-percent of the population on the Synergy Oil Field based on 2016 estimates, which as noted resulted in significant numbers of tarplant. The loss of 6,000 individuals of southern tarplant would be considered significant before mitigation; however, with mitigation, the impacts to southern tarplant would be reduced to less than significant.

5.3.1.2 Phase 2 Area

Removal of the pipelines and other oil field infrastructure exhibits potential for impacts to southern tarplant since this species occurs on and adjacent to many of the disturbed pads where the activities will take place [Exhibit 7A]. While care will be taken to avoid this species during the removal process, in the event that inadvertent and temporary impacts to southern tarplant occur, the Applicant will restore the impacted area by removing any material that was not present prior and reseeding, as necessary, any area where southern tarplant has been affected.

Estuary and Wooly Seablite

5.3.1.3 Phase 1 Mitigation Bank area

Grading for the Phase 1 Mitigation Bank Area has been designed to fully avoid estuary and wooly seablite [Exhibit 7A].

5.3.1.4 Phase 2 Area

Removal of the pipelines and other oil field infrastructure would result in no impacts to estuary or wooly seablite as these species do not occur within the Phase 2 Area [Exhibit 7A].

5.3.2 Pumpkin Patch Site

Grading of the site would result in impacts to approximately 155 individuals of southern tarplant [Exhibit 7B]. The loss of 155 individuals of southern tarplant would be considered significant before mitigation; however, with mitigation, the impacts to southern tarplant would be reduced to less than significant.

5.3.3 LCWA

The LCWA site supports no special-status plants; therefore there would be no impacts to special-status plants associated with any activities on the LCWA site.

5.3.4 City Property Site

The City Property Site contains a small population of southern tarplant. Installation of the pipeline corridor and removal of the pipelines and other oil field infrastructure exhibits potential for impacts to southern tarplant since this species occurs on and adjacent to many of the disturbed pads where the activities will take place [Exhibit 7C]. While care will be taken to avoid this species during the installation and removal process; however, in the event that impacts to southern tarplant occur, the Applicant will restore the impacted area by removing any material that was not present prior and reseeding, as necessary, any area where southern tarplant has been significantly affected.

5.4 Impacts to Special-Status Animals

As discussed for each species below, implementation of the proposed project has the potential to impact special-status animals.

5.4.1 Synergy Oil Field

5.4.1.1 American Peregrine Falcon

The Synergy Oil Field contains suitable foraging habitat for the peregrine falcon, which is expected to forage at least occasionally on the site, particularly during the wintering period when populations of waterfowl and shorebirds are highest. Nevertheless, grading and associated restoration activities associated with the Phase 1 Mitigation Bank Area would not result in significant impacts on the peregrine falcon. Activities within the Phase 2 Area do not exhibit potential for impacts on the American peregrine falcon. Neither Phase 1 nor Phase 2 exhibits potential for significant impacts on the American peregrine falcon.

5.4.1.2 Belding's Savannah Sparrow

Belding's savannah sparrow was observed during surveys on site, within Steamshovel Slough, along the berm that demarcates the southern limit of Steamshovel Slough and within areas of pickleweed and Parish's glasswort south of the berm, with suitable habitat for the species depicted on Exhibit 6A. Project grading and associated restoration activities within the Phase 1 Mitigation Bank Area exhibit the potential for significant direct and indirect impacts on the Belding's savannah sparrow before mitigation. Direct impacts would include the removal of vegetation used for nesting or foraging while indirect impacts would be due to noise and dust generated during construction. With implementation of the mitigation measures set forth in Section 6.3.1 below, potential impacts associated with Phase 1 activities would be reduced to less than significant. Activities associated with the Phase 2 Area do not exhibit potential for impacts on the Belding's savannah sparrow.

5.4.1.3 Burrowing Owl

Burrowing owls have not been observed on any of the four project sites during the breeding season or as wintering individuals. Nevertheless, suitable habitat is present and potential impacts

could occur should a burrowing owl or owls occupy the site. Potential impacts on burrowing owl would be mitigated to less than significance through pre-construction surveys and associated avoidance.

5.4.1.4 California Black Rail

California black rail has not been observed during surveys on the site. Limited areas of suitable foraging habitat are present within Steamshovel Slough. Given the lack of detection during previous surveys, neither Phase 1 nor Phase 2 activities exhibit potential for significant impacts on the California black rail.

5.4.1.5 California least tern

This species has been observed foraging within Steamshovel Slough, with suitable habitat for the species depicted on Exhibit 6A; however, there are no potential breeding areas on the site. Limited grading of the berm that demarcates the limits of Steamshovel Slough exhibits potential for affecting foraging activities for brief periods; however, given that expansive areas of foraging areas both onsite and offsite are available, such short-term and localized impacts would not be considered significant. Phase 2 activities exhibit no potential for impacts on foraging by California least tern.

5.4.1.6 Pacific green Sea Turtle

The westernmost portion of Steamshovel Slough has been identified as potential habitat for the Pacific green sea turtle, with suitable habitat for the species depicted on Exhibit 6A. There is no potential for project activities to impact this species, and as such, there would be no significant impacts on the green sea turtle.

5.4.1.7 Light-Footed Clapper Rail

Light-footed clapper rail has not been observed on the Synergy Oil Field. Nevertheless, suitable habitat is present in Steamshovel Slough, and potential impacts could occur during Phase 1 activities should a light-footed clapper rail occupy the site. Potential impacts on light-footed clapper rail would be mitigated to less than significance through pre-construction surveys and associated avoidance.

5.4.1.8 Northern harrier (nesting)

Northern harriers have occasionally been observed foraging on the site. There have been no records of this species nesting on the site. Nevertheless, neither grading nor other restoration activities associated with Phase 1 nor activities associated with Phase 2 would result in significant impacts on the northern harrier.

5.4.1.9 Osprey

Osprey are regularly observed foraging on the site. There have been no records of this species nesting on the site. Nevertheless, neither grading nor associated restoration activities associated with Phase 1 nor activities associated with Phase 2 would result in significant impacts on the osprey.

5.4.1.10 Short-eared owl

The Steamshovel Slough may provide potentially suitable wintering habitat for the short-eared owl; however, this species was not observed on site during surveys. Neither grading nor other restoration activities associated with Phase 1, nor activities associated with Phase 2 would result in significant impacts on the short-eared owl.

5.4.1.11 South coast marsh vole

The south coast marsh vole was not observed on site during any general biological surveys, however the salt marsh areas within Steamshovel Slough may provide suitable habitat for this species. Grading to remove portions of the berm during Phase 1 restoration activities exhibits potential for limited impacts on this species; however, given the limited area of impact and the extensive area of suitable habitat preserved in Steamshovel Slough, potential impacts would not be significant.

5.4.1.12 Southern California salt marsh shrew

The southern California salt marsh shrew was not observed on site during any general biological surveys, however the salt marsh areas within Steamshovel Slough may provide suitable habitat for this species. Grading to remove portions of the berm during Phase 1 restoration activities exhibits potential for limited impacts on this species; however, given the limited area of impact and the extensive area of suitable habitat preserved in Steamshovel Slough, potential impacts would not be significant.

5.4.1.13 Wandering Skipper

Suitable habitat for the saltmarsh wandering skipper occurs within Steamshovel Slough as well as areas to the south of the slough which support patches of saltgrass, with suitable habitat for the species depicted on Exhibit 6A. Focused surveys were not performed; however, it is expected that the wandering skipper occurs throughout portions of the site. Grading associated with Phase 1 restoration activities exhibits potential for limited impacts on this species; however, given the limited area of impact and the extensive area of suitable habitat preserved in Steamshovel Slough and other portions of the site, potential impacts would not be significant.

5.4.1.14 Western snowy plover

The western snowy plover has not been observed foraging on the site and the site contains no suitable breeding areas. Nevertheless, suitable foraging habitat occurs and grading associated

with Phase 1 restoration activities exhibits potential for significant impacts on this species before mitigation. With mitigation, any potential impacts would be reduced to less than significant.

5.4.1.15 White-tailed kite

White-tailed kites have been observed foraging on the site; however, there is little suitable habitat for nesting and the species is not expected to nest on the site. Nevertheless, neither grading nor other restoration activities associated with Phase 1 nor removal of pipelines and other oil field infrastructure associated with Phase 2 would result in significant impacts on the white-tailed kite.

5.4.2 Pumpkin Patch Site

The following species exhibit no potential for occurring on the Pumpkin Patch site and would not be subject to potential project impacts: American peregrine falcon, Belding's savannah sparrow, burrowing owl, California black rail, California least tern, light-footed clapper rail, osprey, short-eared owl, south coast marsh vole, southern California salt marsh shrew, and western snowy plover. The species with potential to occur in the northeast lower portion of the site are addressed below.

5.4.2.1 Northern Harrier

Suitable foraging habitat for the northern harrier is limited to the northeast portion of the site in areas of pickleweed mats and unvegetated flats. This area will be avoided and set back 100 feet from the edge of development; therefore, there would be no direct or indirect impact to northern harrier foraging habitat during construction or long-term operations.

5.4.2.2 Wandering Skipper

Suitable habitat for the wandering skipper is limited to the northeast portion of the site in limited saltgrass patches that occur with the pickleweed mats. This area will be avoided and set back 100 feet from the edge of development; therefore, there would be no direct impact to wandering skipper habitat during construction or long-term operations; however, there is potential for indirect impacts from dust associated with grading. Indirect impacts could be significant if such impacts disrupted breeding or other essential activities; however, such impacts would be reduced to less than significant through mitigation.

5.4.2.3 White-Tailed Kite

Suitable foraging habitat for the white-tailed kite is limited to the northeast portion of the site in areas of pickleweed mats and unvegetated flats. This area will be avoided and set back 100 feet from the edge of development; therefore, there would be no direct or indirect impact to northern harrier foraging habitat during construction or long-term operations.

5.4.3 LCWA Site

The following species exhibit no potential for occurring on the LCWA Site and would not be subject to potential project impacts: American peregrine falcon, Belding's savannah sparrow, burrowing owl, California black rail, California least tern, light-footed clapper rail, northern harrier, osprey, short-eared owl, south coast marsh vole, southern California salt marsh shrew, and western snowy plover. The species with potential to occur on site is addressed below.

5.4.3.1 White-Tailed Kite

The LCWA site includes a number of trees that exhibit potential for nesting by the white-tailed kite. While nesting has not been previously observed, there is potential for nesting in the future. Direct impacts to nests would be considered significant; however, with mitigation, any potential impacts would be reduced to less than significant.

5.4.4 City Property Site

The following species exhibit no potential for occurring on the City's Property site and would not be subject to potential project impacts: California least tern, light-footed clapper rail, short-eared owl, south coast marsh vole, southern California salt marsh shrew, and western snowy plover. The species with potential to occur are addressed below.

5.4.1 1 American Peregrine Falcon

The site contains suitable foraging habitat for the American peregrine falcon, which is expected to forage at least occasionally on the site, particularly during the wintering period when populations of waterfowl and shorebirds are highest. Installation of the pipeline corridor and removal of the pipelines and other oil field infrastructure do not exhibit potential for significant impacts on the American peregrine falcon.

5.4.1.2 Belding's Savannah Sparrow

Belding's savannah sparrow has not been observed breeding within the City Property Site. Installation of the pipeline corridor and removal of the pipelines and other oil field infrastructure exhibit no potential for significant impacts on Belding's savannah sparrow breeding.

5.4.1.3 Burrowing Owl

Burrowing owls have not been observed on the City Property Site as breeding or as wintering individuals. Nevertheless, suitable habitat is present and potential impacts could occur should a burrowing owl or owls occupy the site. Potential impacts on burrowing owl would be mitigated to less than significance through pre-construction surveys and associated avoidance.

5.4.1.4 California Black Rail

California black rail has not been observed during surveys on the site. Limited areas of suitable foraging habitat are present within the areas of brackish marsh. Installation of the pipeline corridor and removal of the pipelines and other oil field infrastructure do not exhibit potential for significant impacts on the California black rail.

5.4.1.7 Northern harrier (nesting)

Northern harriers have occasionally been observed foraging on the site. There have been no records of species nesting on the site. Nevertheless, installation of the pipeline corridor and removal of the pipelines and other oil field infrastructure would result in no significant impacts on the northern harrier.

5.4.1.8 Osprey

Osprey exhibit potential for foraging on the site. There have been no records of nesting on the site. Nevertheless, Installation of the pipeline corridor and removal of the pipelines and other oil field infrastructure would result in no significant impacts on the osprey.

5.4.1.12 Wandering Skipper

Suitable habitat for this species occurs within areas that support patches of saltgrass. Focused surveys were not performed; however, it is expected that the wandering skipper occurs within areas of suitable habitat on the site. Nevertheless, installation of the pipeline corridor and removal of the pipelines and other oil field infrastructure would result in no significant impacts on the wandering skipper.

5.4.1.14 White-tailed kite

White-tailed kites exhibit potential for foraging on the site; however, there is little suitable habitat for nesting and the species is not expected to nest on the site. Nevertheless, installation of the pipeline corridor and removal of the pipelines and other oil field infrastructure would result in no significant impacts on the white-tailed kite.

5.5 Nesting Birds and Migratory Bird Treaty Act Considerations

Each of the four properties contains vegetation, including trees, shrubs, and other low-growing vegetation that have the potential to support nesting birds. Impacts to migratory nesting birds are prohibited under the Migratory Bird Treaty Act (MBTA), and would be significant. With mitigation, any potential impacts to nesting birds would be reduced to less than significant.

5.6 Impacts to Critical Habitat/Essential Fish Habitat

The proposed project would have no impact on Critical Habitat or Essential Fish Habitat.

5.7 Impacts to Corps Jurisdiction, CDFW Jurisdiction, and Coastal Act Wetlands

Direct impacts to jurisdictional waters and wetlands would occur on the Synergy Oil Field and are described below. On the Pumpkin Patch site, all jurisdictional areas occur within the northeast lower area that will be avoided and set back by 100 feet from the proposed project. No impacts to jurisdictional waters or wetlands would occur on the LCWA site since no jurisdiction exists on the site. On the City Property site, proposed project activities consisting of installation of the sidewalk and pipeline corridor would have direct impacts to potential jurisdictional waters and wetlands and are described below. Removal of the pipelines and other oil field infrastructure would not impact jurisdictional waters or wetlands.

Proposed project activities on the Synergy Oil Field would impact Corps jurisdiction, CDFW jurisdiction, and coastal wetlands during re-establishment of coastal salt marsh habitat within the Phase 1 Mitigation Bank area. All impacts to jurisdictional areas associated with tidal channel grading, seawall berm and overlook terrace installation, berm/road removal, and onsite sidewalk grading are considered to be temporary given that the areas to be disturbed as part of these activities will remain jurisdictional following completion. Sheet pile installation is accounted for as a permanent impact to jurisdiction; however, the amount of jurisdiction to be impacted by this activity is extremely limited, totaling less than one quarter of 1% of the entire Phase 1 area and is necessary to account for sea level rise estimations. During construction of the sheet pile wall, it is very likely that the jurisdictional areas will actually be avoided based on in-field placement of the wall to position it over existing disturbed areas. No other project components will impact Corps Section 404 waters or wetlands. Proposed activities in Phase 2 and offsite areas for sidewalks within the City's right-of-way would not impact jurisdictional waters or wetlands.

Proposed project activities on the City Property site will impact potential Corps jurisdiction and coastal wetlands during construction of the sidewalk and installation of the pipeline corridor. Care will be taken during the removal of older pipelines and oil infrastructure so as not to impact Corps jurisdiction, CDFW jurisdiction, or coastal wetlands; however, any areas that are inadvertently or temporarily disturbed will be revegetated immediately upon completion of work. As described above, geographic Information Systems (GIS) data of the jurisdictional delineation for the City Property site was provided by the City of Long Beach on March 24, 2016 and is depicted on Exhibit 5F. The GIS files label all the areas shown on Exhibit 5F as wetland, without distinguishing between three criteria wetlands as defined by the Corps or wetlands defined by the Coastal Act. As such, this report assumes that the City-mapped wetlands are subject to Corps jurisdiction pursuant to Section 404 of the Clean Water Act and wetlands as defined under the Coastal Act.

5.7.1 Synergy Oil Field

5.7.1.1 Impacts to Corps Jurisdiction – Section 10

Implementation of the proposed project will occur within Section 10 waters, which as described above in Section 4.9, was mapped by elevation alone. Installation of the sheet pile wall will result in the only permanent impact to mapped Section 10 waters; however, where the sheet pile will

occur, the Section 10 waters consist primarily of upland disturbed roads and are not considered as impacts to navigable waters.

5.7.1.2 Impacts to Corps Jurisdiction – Section 404

Implementation of the Phase 1 Mitigation Bank will result in permanent impacts to 0.002 acre and temporary impacts to 0.38 acre of Section 404 waters and wetlands. Table 5-12 and Exhibit 5A summarize potential permanent and temporary impacts to Section 404 jurisdiction.

Table 5-12
Impacts to Corps - Section 404 Jurisdiction
Synergy Oil Field

Impact Type	Sheet Pile Wall	Visitor's Center/ Trail	Transitional Wetland Grading	Tidal Channel Grading	Seawall Berm	Overlook Terrace	Berm/Road Removal	Sidewalk
Permanent	0.002	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Temporary	0.00	0.00	0.19	0.12	0.00	0.00	0.04	0.03
Total	**0.002**	**0.00**	**0.19**	**0.12**	**0.00**	**0.00**	**0.04**	**0.03**

5.7.1.3 Impacts to CDFW Jurisdiction

Implementation of the Phase 1 Mitigation Bank will result in no permanent impacts and temporary impacts to 0.14 acre of Section 1602 jurisdiction. Table 5-13 and Exhibit 5B summarize potential temporary impacts to Section 1602 jurisdiction.

Table 5-13
Impacts to CDFW - Section 1602 Jurisdiction
Synergy Oil Field

Impact Type	Sheet Pile Wall	Visitor's Center/ Trail	Transitional Wetland Grading	Tidal Channel Grading	Seawall Berm	Overlook Terrace	Berm/Road Removal	Sidewalk
Permanent	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Temporary	0.00	0.00	0.00	0.08	0.00	0.00	0.03	0.03
Total	**0.00**	**0.00**	**0.00**	**0.08**	**0.00**	**0.00**	**0.03**	**0.03**

5.7.1.4 Impacts to CCA Wetlands

Implementation of the Phase 1 Mitigation Bank would result in permanent impacts to 0.03 acre and temporary impacts to 7.30 acres of wetlands as defined by the Coastal Act. Of the 7.30 acres of temporary impacts to coastal wetlands, 2.16 acres, or 30 percent, occur to unvegetated flats. Of the 0.03 acre of permanent impacts to coastal wetlands, 0.02 acre, or 50%, occurs to unvegetated flats. Construction of the sidewalk along Pacific Coast Highway would also result in permanent impacts to 0.01 acre of wetlands as defined by the Coastal Act. Table 5-14 and Exhibit 5C summarize potential permanent and temporary impacts to coastal wetlands.

Table 5-14 Impacts to Coastal Wetlands Synergy Oil Field								
Impact Type	Sheet Pile Wall	Visitor's Center/ Trail	Transitional Wetland Grading	Tidal Channel Grading	Seawall Berm	Overlook Terrace	Berm/Road Removal	Sidewalk
Permanent	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Temporary	0.00	0.00	1.18	3.54	2.06	0.04	0.45	0.03
Total	**0.03**	**0.00**	**1.18**	**3.54**	**2.06**	**0.04**	**0.45**	**0.04**

5.7.2 Pumpkin Patch Site

As depicted on Exhibits 5D and 5E, the proposed project would not impact any Corps Section 404 waters or wetlands or wetlands as defined by the Coastal Act. All jurisdictional areas occur within the northeast lower area that would be avoided and set back by 100 feet from the proposed project.

5.7.3 City Property Site

Construction of the sidewalks within the City right-of-way along 2nd Street would result in permanent and temporary impacts to potential Corps jurisdiction and wetlands as defined by the Coastal Act. Construction of the 40-foot-wide pipeline corridor, including widening of the adjacent access roads, would result in permanent impacts to potential Corps jurisdiction and wetlands as defined by the Coastal Act. It is possible that some areas within the pipeline corridor could be restored following construction; however, the impacts are assumed to be permanent at this time until a detailed construction plan showing the precise layout of the pipeline is prepared. Table 5-15 and Exhibit 5A summarize potential permanent and temporary impacts to potential Corps jurisdiction and wetlands as defined by the Coastal Act.

5.7.3.1 Impacts to Corps Jurisdiction – Section 404

Construction of the sidewalks within the City right-of-way along 2nd Street would result in permanent impacts to 0.15 acre and temporary impacts to 0.74 acre of potential Section 404 wetlands. Construction of the 40-foot-wide pipeline corridor, including widening of the adjacent access roads, would result in permanent impacts to 0.31 acre of potential Section 404 wetlands.

5.7.3.2 Impacts to CCA Wetlands

Construction of the sidewalks within the City right-of-way along 2nd Street would result in permanent impacts to 0.15 acre and temporary impacts to 0.74 acre of potential wetlands as defined by the Coastal Act. Construction of the 40-foot-wide pipeline corridor, including widening of the adjacent access roads, would result in permanent impacts to 0.31 acre of potential wetlands as defined by the Coastal Act.

Table 5-15 Impacts to Jurisdictional Waters and Wetlands (acres) City Property Site & Off-Site in City's Right-of-Way			
Jurisdiction	Pipeline Corridor	Sidewalk – Permanent	Sidewalk Grading - Temporary
Section 404 Wetlands & Coastal Wetlands	0.31	0.15	0.74
Total	**0.31**	**0.15**	**0.74**

6.0 MITIGATION MEASURES

6.1 Synergy Oil Field

6.1.1 Vegetation Alliances

Grading for the project to re-establish tidal connection, through berm removal and construction of berms necessary to contain the tidal water within the Phase 1 Mitigation Bank area will result in temporary impacts on three special-status vegetation alliances: Alkali Heath Marsh, Parish's Glasswort Patches, and Pickleweed Mats. Temporary disturbance of these alliances would be considered significant and would be mitigated to reduce the impacts to less than significant through on-site re-establishment of the affected alliance in the areas subject to the temporary impacts. The details of the re-establishment of areas subject to temporary impacts necessary to restore wetland areas are provided in the comprehensive *Restoration Plan for the Upper Los Cerritos Wetlands Mitigation Bank.*

Mitigation Measure 6.1.1: Re-establish Special-Status Vegetation Alliances Subject to Temporary Impacts:

The comprehensive Restoration Plan shall include a section that addresses temporary impacts to special-status vegetation alliances and shall include:

- A map showing the areas to be restored following temporary impacts;
- Plant palette for each special-status vegetation alliance subject to re-establishment;
- Performance standards for the areas to be re-established;
- Maintenance and monitoring procedures for the areas to be re-established; and
- Reporting requirements

With implementation of Mitigation Measure 6.1.1, impacts to special-status vegetation alliances would be mitigated to less than significant.

6.1.2 Special-Status Plants

6.1.2.1 Southern Tarplant

Grading on the Synergy Oil Field to establish new wetland areas in areas that are currently upland would impact an estimated 6,000 individuals, a taxon with 1B status in the California Rare Plant Rank. Impacts to 1B plants are considered significant; however, this can be mitigated through seed collection of the impacted population and dispersal within other suitable areas of the Phase 1 Mitigation Bank area following completion of grading. With mitigation (see below), impacts to southern tarplant would be reduced to less than significant. The details for the re-establishment of southern tarplant in areas subject to temporary impacts necessary to restore wetland areas are provided in the comprehensive *Restoration Plan for the Upper Los Cerritos Wetlands Mitigation Bank* which has been developed for the proposed project.

Grading of Pumpkin Patch site would result in impacts to approximately 155 individuals of southern tarplant. The loss of 155 individuals of southern tarplant would be considered significant; however, this can be mitigated through seed collection of the impacted population (or populations on the Synergy Oil Field) and dispersal on the pad that will be revegetated following removal of the oil well on the northeastern portion of the site.

Mitigation Measure 6.1.2.1: Re-establish Southern Tarplant on Synergy Oil Field, Pumpkin Patch Site, and City Property Site:

A Rare Plant Restoration Plan has been prepared that includes sections that address impacts to southern tarplant, including:

- A map showing the areas to be restored following temporary impacts;
- Seed collection protocol;
- Seed dispersal protocol;
- Performance standards for the areas to be re-established;
- Maintenance and monitoring procedures for the areas to be re-established; and
- Reporting requirements.

With implementation of Mitigation Measure 6.1.2.1, impacts to southern tarplant would be mitigated to less than significant.

6.1.3 Special-Status Animals

6.1.3.1 Belding's Savannah Sparrow

Project grading and associated restoration activities in the Phase 1 Mitigation bank area have the potential for significant direct and indirect impacts on the Belding's savannah sparrow before mitigation. Potential direct impacts include the temporary loss of vegetation used by Belding's savannah sparrow for nesting or foraging and indirect impacts would include noise and dust generated during construction that could disrupt breeding or other essential activities during the breeding season (e.g., vocalizing to attract mates, foraging, etc.). Direct impacts to habitat used

by the species include loss of Parish's glasswort and pickleweed mats, which is addressed in Mitigation Measure 6.1.1 above.

With implementation of Mitigation Measure 6.1.1, the temporary loss of breeding and/or foraging habitat is mitigated to less than significant.

Project grading and associated restoration activities in the Phase 1 Mitigation bank area exhibit the potential for indirect impacts on Belding's savannah sparrow through disruption of nesting or other essential behaviors due to construction noise and dust. This potentially significant impact would be mitigated through implementation of grading and associated construction activities outside of the breeding season, with the breeding season identified as the period between March 1 and August 15.

Mitigation Measure 6.1.3.1: Restrict Grading and other Construction to Periods outside the Nesting Season of March 1 to August 15:

- Phase 1 Mitigation Bank project grading and construction will not occur within areas used by Belding's savannah sparrow for nesting or other essential activities (e.g., vocalizing to attract mates, foraging, etc.) and grading/construction will also be restricted within 500 feet of such areas during the breeding season.
- Phase 2 Area activities will not be performed within 500 feet of areas used by Belding's savannah sparrow for nesting or other essential activities (e.g., vocalizing to attract mates, foraging, etc.).

With implementation of Mitigation Measure 6.1.3.1, potential indirect impacts to breeding and/or foraging habitat Belding's savannah sparrows during the nesting season would be mitigated to less than significant.

6.1.3.2 Burrowing Owl

Burrowing owl was not identified on the Synergy Oil Field, Pumpkin Patch Site, or LCWA Site during focused surveys or during the many other site visits such as rare plant surveys or jurisdictional delineation. Nevertheless, the sites exhibit potential for supporting burrowing owl during the wintering season of October 15 to March 15. Potential impacts can be fully mitigated through pre-construction surveys, with avoidance if present. The following measures will be implemented if construction starts during or after the beginning of the burrowing owl wintering season. If work is already ongoing during this period, the mitigation measure is not required.

Mitigation Measure 6.1.3.2: Habitat Assessment and Pre-Construction Surveys for Burrowing Owl:

- A qualified biologist will conduct a habitat assessment, specifically to identify potential burrows that could be used by burrowing owl within areas to be graded. Any burrows identified will be mapped using GPS Technology.

- If burrows are identified, a pre-construction survey, consisting of four visits no less than three days apart will be conducted in a manner to optimize detection. All mapped burrows will be inspected for "sign" (e.g., white wash, pellets, etc.).
- If wintering burrowing owl is detected, the CDFW will be contacted and an avoidance plan will be developed in consultation with CDFW.

With implementation of Mitigation Measure 6.1.3.2, potential impacts to wintering burrowing owl would be mitigated to less than significant.

6.1.3.3 Light-footed Clapper Rail

Light-footed clapper rail has not been observed on the Synergy Oil Field. Nevertheless, suitable habitat is present in Steamshovel Slough and potential impacts could occur during Phase 1 Mitigation Bank activities should a light-footed clapper rail occupy the site. Potential impacts on light-footed clapper rail would be mitigated to less than significant through performance of work outside of the breeding season.

Project grading associated with the Phase 1 Mitigation Bank exhibits the potential for indirect impacts on light-footed clapper rail through disruption of nesting or other essential behaviors due to construction noise and dust. This potentially significant impact can be mitigated through implementation of grading and associated construction activities outside of the breeding season, with the breeding season identified as the period between March 1 and August 15.

Mitigation Measure 6.1.3.3: Restrict Grading and other Construction to Periods outside the Nesting Season March 1 to August 15:

- Phase 1 Mitigation Bank project grading and construction will not occur within areas used by light-footed clapper rail for nesting or other essential activities (e.g., vocalizing to attract mates, foraging, etc.) and grading/construction will also be restricted within 500 feet of such areas during the breeding season.
- Phase 2 Area activities shall not be performed within 500 feet of areas used by light-footed clapper rail for nesting or other essential activities (e.g., vocalizing to attract mates, foraging, etc.).

With implementation of Mitigation Measure 6.1.3.3, potential indirect impacts to breeding and/or foraging for the light-footed clapper rail during the nesting season would be mitigated to less than significant.

6.1.3.4 Salt Marsh Wandering Skipper

Project grading associated with the Phase 1 Mitigation Bank exhibits the potential for indirect impact to the salt marsh wandering skipper through limited impacts to saltgrass associated with fugitive dust generated during grading. Potentially significant impacts would be mitigated through dust control during grading.

Mitigation Measure 6.1.3.4: Dust Control During Grading:

The Project Grading Plan will have measures for dust control.

With implementation of Mitigation Measure 6.1.3.4, potential indirect impacts on the wandering skipper would be mitigated to less than significant.

Mitigation Measure 6.1.3.5: Biological Monitoring During Phase 1 and Phase 2 Activities:

All proposed project implementation will occur under the supervision and direction of a project biologist. In addition to carrying out the Phase 1 Mitigation Bank activities, the primary role of the project biologist is to ensure maximum avoidance and minimization of impacts to wetland vegetation during implementation of both Phase 1 and Phase 2 project activities.

6.2 Pumpkin Patch Site

6.2.1 Special-Status Plants

6.2.1.1 Southern Tarplant

Grading of Pumpkin Patch site would result in impacts to approximately 155 individuals of southern tarplant. The loss of 155 individuals of southern tarplant would be considered significant; however, this can be mitigated through seed collection of the impacted population (or populations on the Synergy Oil Field) and dispersal on the pad that will be revegetated following removal of the oil well on the northeastern portion of the site. With mitigation (see below), impacts to southern tarplant would be reduced to less than significant. The details for the re-establishment of southern tarplant in areas subject to temporary impacts necessary to restore wetland areas are provided in the comprehensive *Restoration Plan for the Upper Los Cerritos Wetlands Mitigation Bank* which has been developed for the proposed project.

6.2.2 Salt Marsh Wandering Skipper

Grading has potential for indirect impact to the salt marsh wandering skipper through limited impacts to saltgrass associated with fugitive dust generated during grading. Potentially significant impacts would be mitigated through dust control during grading.

Mitigation Measure 6.2.2: Dust Control During Grading:

The Project Grading Plan will have measures for dust control.

With implementation of Mitigation Measure 6.2.2, potential indirect impacts on the wandering skipper would be mitigated to less than significant.

6.2.3 Indirect Impacts from Lighting

Similar to the adjacent office buildings to the north, the proposed office building and storage warehouse will have exterior building lights that area illuminated at night. The parking lot and oil facility areas may also require lighting at night. Without proper placement and/or shielding, light trespass and/or glare may result from the artificial lighting into the avoided two-acre coastal wetland (and potentially, beyond, into the City Property site) in the northeast portion of the site.

Mitigation Measure 6.2.3: Minimization of Light Spillage:

A Project Lighting Plan will be designed to minimize light trespass and glare into the avoided wetland habitat in the northeast portion of the site. Artificial lights will be directed away from or shielded to prevent spillage into the avoided wetland habitat.

6.2.4 Impacts to Coastal Wetlands

Should the Commission assert that the seasonal depressions meet the definition of wetlands as defined by the Coastal Act, the project would impact 0.03 acre of coastal wetlands.

Mitigation Measure 6.2.: Mitigation for Impacts to Coastal Wetlands:

For permanent impacts associated with construction of the proposed project, feasible mitigation consistent with Section 30233 would be required to ensure consistency with the CCA.

6.3 LCWA Site

6.3.1 White-Tailed Kite

The LCWA contains trees that exhibit potential as nesting sites for the white-tailed kite. Impacts to active nesting sites would be considered a significant impact; however, with mitigation, any potential impacts would be mitigated to less than significant. The following options are available that would ensure that nesting white-shouldered kites are not subject to impacts.

Mitigation Measure 6.3.1: Avoidance of White-Tailed Kite Nesting:

- Remove all trees on the site outside the white-tailed kite nesting season (February 1 – June 30).
- If it is not possible to remove trees during the non-breeding season, a qualified biologist must conduct a survey no more than three days prior to tree removal to document the absence of nests. If nests are detected, then the biologist will monitor the site weekly until the nestlings have fledged and are no longer dependent on the nest.

With implementation of Mitigation Measure 6.3.1, potential indirect impacts on nesting white-tailed kites would be mitigated to less than significant.

6.4 City Property Site

For permanent impacts associated with the pipeline corridor and sidewalks, all impacts to special-status habitats and/or wetlands would be mitigated through a minimum 1:1 restoration of wetlands within existing disturbed/developed areas. The targeted location of this restoration is the oil tank farm that would be removed as part of the project and in areas where existing above-ground pipelines would be removed. All temporary impacts associated with sidewalk grading would be restored in place at a 1:1 ratio.

Implementation of mitigation measure 6.4.1 will ensure that inadvertent impacts to special-status plants, animals or habitats, and wetlands are avoided and minimized.

Mitigation Measure 6.4.1: Biological Monitoring:

All proposed project implementation will occur under the supervision and direction of a project biologist. The primary role of the project biologist is to ensure maximum avoidance and minimization of impacts to wetland vegetation and special-status species.

7.0 CERTIFICATION

*"**CERTIFICATION**: I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief."*

DATE: June 22, 2017 SIGNED: 

8.0 REFERENCES/BIBLIOGRAPHY

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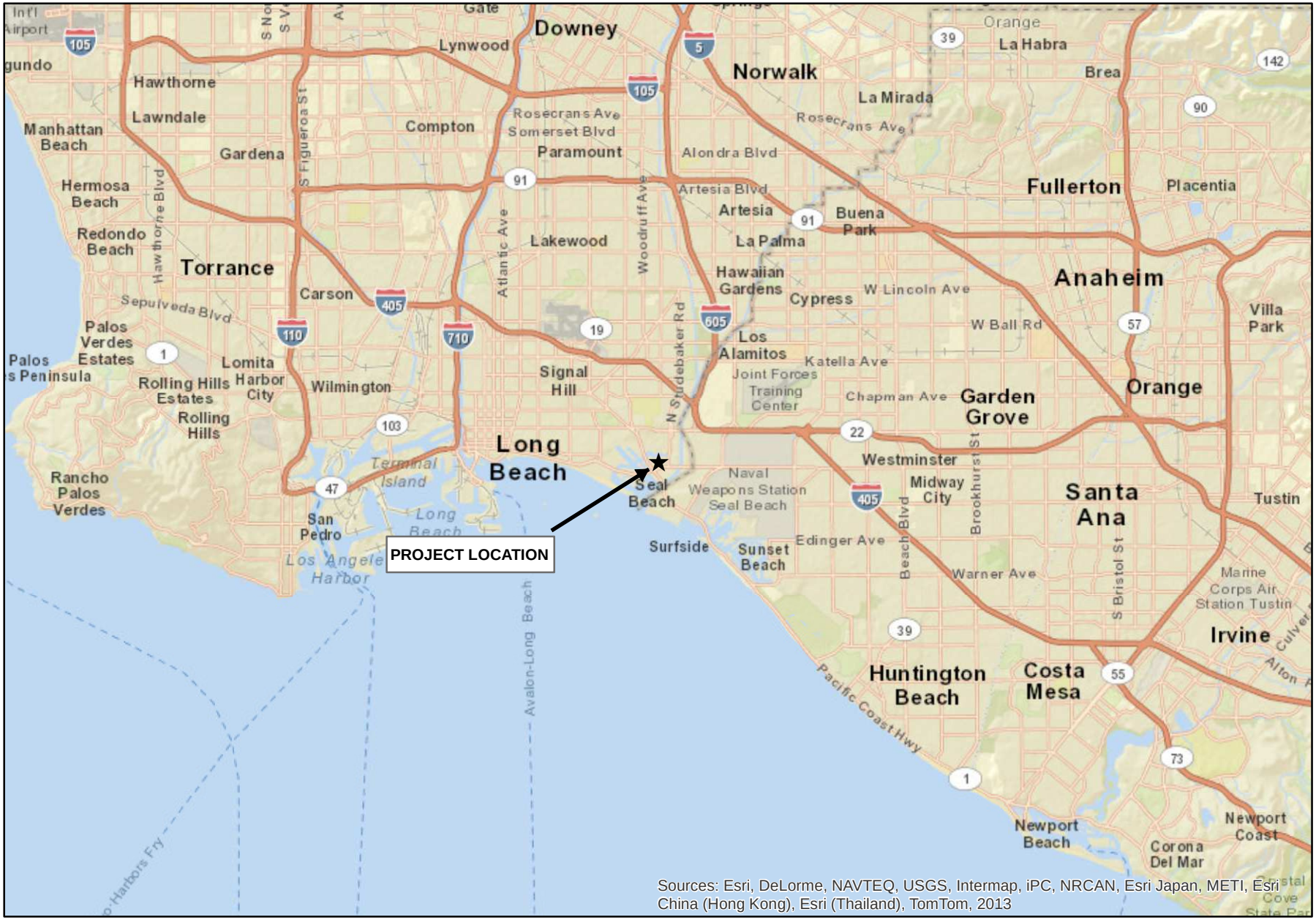
EXHIBIT 1

Regional Map



Source: ESRI World Street Map

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0 2 4 8 Miles

LCW OIL CONSOLIDATION AND RESTORATION PROJECT

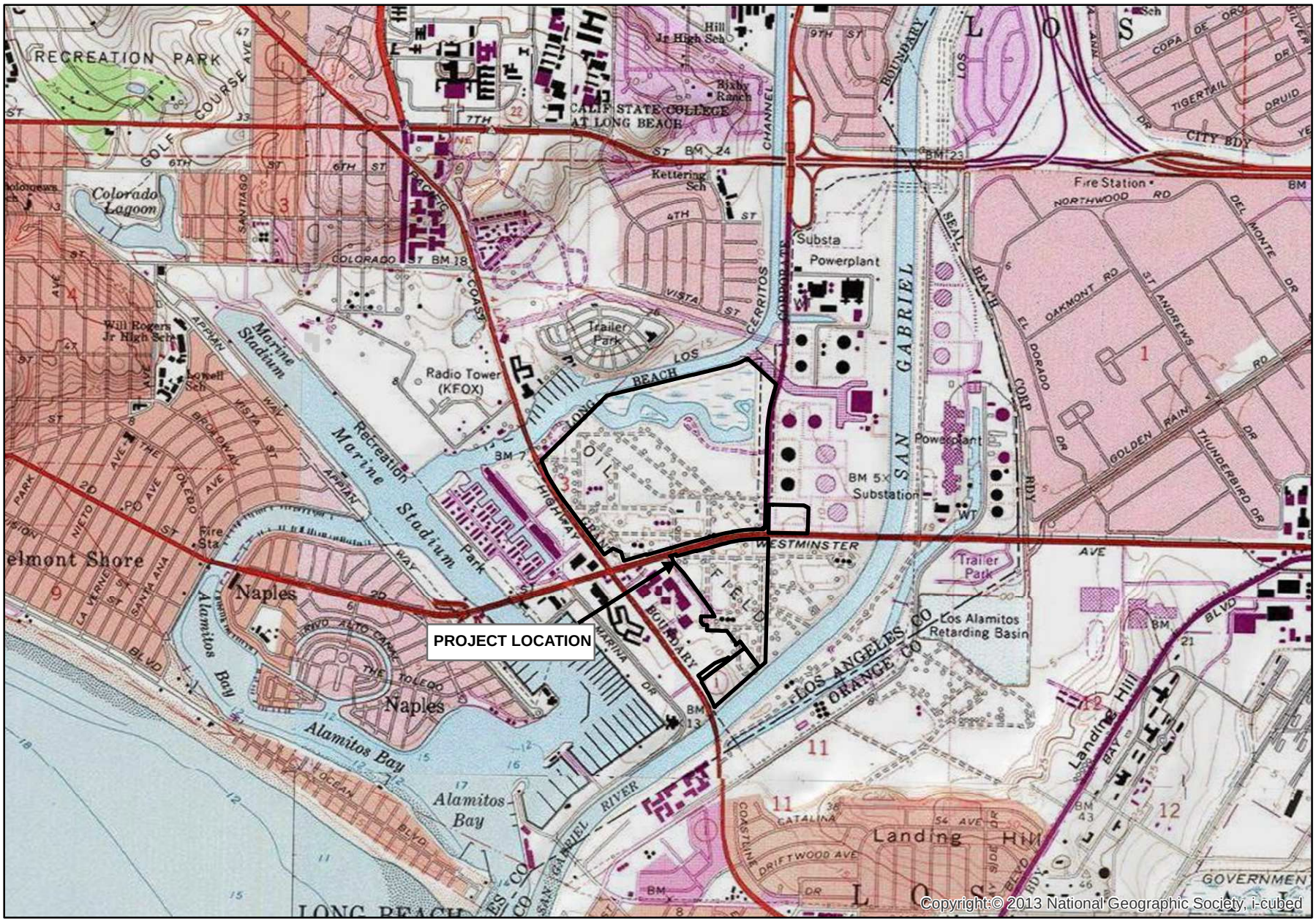
Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1

EXHIBIT 2

Vicinity Map



Adapted from USGS Los Alamitos, CA quadrangle

N

0 1,000 2,000 4,000 Feet

LCW OIL CONSOLIDATION AND RESTORATION PROJECT

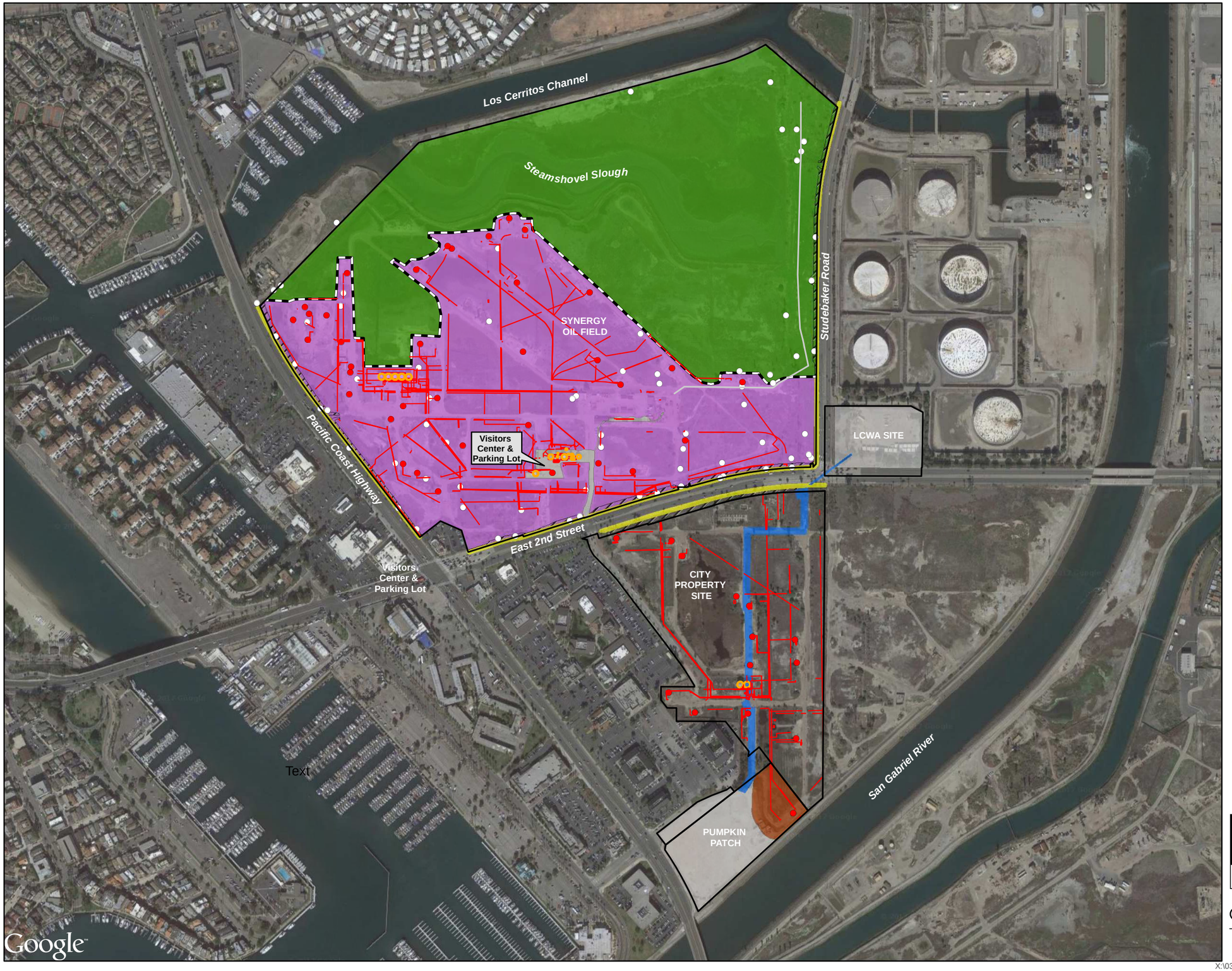
Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

EXHIBIT 3

Project Site Map



Legend

- Project Boundary
- Development Area
- Pipeline
- Pumpkin Patch Avoided Wetland with Buffer
- Synergy Site Phasing Boundary
- Synergy Phase 1
- Synergy Phase 2
- Sidewalk - Permanent
- Sidewalk - Temporary
- Oil Wells to be Abandoned
- Invasive Fan Palm to be Removed
- Oil Tank Farms to be Removed
- 95% Aboveground/Obsolete Pipes to be Removed
- Trail

N

0 275 550 1,100

Feet

1 inch = 550 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: February 17, 2017

LCW OIL CONSOLIDATION AND RESTORATION PROJECT

Project Site Map

GLENN LUKOS ASSOCIATES

Exhibit 3

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