Jurisdictional Delineation Report

Soft Bottom Channel Reaches 112 through 117
Los Angeles County, California

Prepared for

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EXECUTIVE SUMMARY

The purpose of this report is to document existing jurisdictional resources in Soft Bottom Channel (SBC) Reaches 112 through 117 in Los Angeles County, California. Project activities proposed at each of these reaches consist of maintenance activities performed by the Los Angeles County Flood Control District (LACFCD) for flood-prevention purposes. The LACFCD performs similar maintenance in many other soft-bottom channels throughout Los Angeles County which typically includes vegetation removal and minor structural repair. Project activities at each of these reaches are addressed together in this report because they are the only SBC reaches that are wholly or partially in the coastal zone and are therefore subject to regulation by the California Coastal Commission (CCC). The locations of each reach are summarized below:

- **Reach 112:** a portion of Ballona Creek in the City of Los Angeles, beginning at Centinela Avenue and extending downstream to Pacific Avenue in Playa del Rey.
- **Reach 113:** a portion of Dominguez Channel, beginning at Vermont Avenue in unincorporated Los Angeles County and proceeding downstream through the City of Carson and extending downstream to Henry Ford Drive near the Los Angeles Harbor.
- **Reach 114:** a portion of the Los Angeles River in the City of Long Beach, beginning at Pacific Coast Highway and extending downstream just past Pacific Avenue.
- **Reach 115:** a portion of the San Gabriel River along the eastern boundary of the City of Long Beach, beginning upstream of Interstate 405 and proceeding downstream to Marina Drive.
- **Reach 116:** a portion of Los Cerritos Channel in the City of Long Beach, beginning at Atherton Street and proceeding downstream to Pacific Coast Highway.
- **Reach 117:** a portion of Centinela Creek at its confluence with Ballona Creek in the community of Del Rey in the City of Los Angeles.

Jurisdictional resources considered for this report include wetlands and non-wetland "waters of the U.S." regulated by the U.S. Army Corps of Engineers (USACE) and the Los Angeles Regional Water Quality Control Board (RWQCB), as well as the bed, bank, and channel of all rivers and streams (and associated riparian trees), as regulated by the California Department of Fish and Wildlife (CDFW). As noted above, these reaches are wholly or partially in the coastal zone and are therefore subject to regulation by the CCC.

The jurisdictional delineation work was performed by BonTerra Psomas Regulatory Specialists David Hughes and Katie Gallagher on February 20 and 23, 2015.

Based on the results of the jurisdictional delineation field work, the total acreage of jurisdictional resources that will be impacted by the project sites are summarized below.

- **USACE/RWQCB Jurisdiction:** 39.9 acres (35.3 acres of non-wetland "waters of the U.S." and 4.6 acres of wetlands).
- **CDFW Jurisdiction:** 54.1 acres of CDFW jurisdictional waters (4.6 acres of permanent impacts and 49.5 acres of temporary impacts).

1.0 INTRODUCTION

This Jurisdictional Delineation Report (report) has been prepared for the Los Angeles County Flood Control District (LACFCD) to provide baseline data concerning the type and extent of resources under the jurisdiction of the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Wildlife (CDFW), the Regional Water Quality Control Board (RWQCB), and the California Coastal Commission (CCC) in Soft Bottom Channel (SBC) Reaches 112 through 117. This report is based on jurisdictional delineation surveys performed on February 20 and 23, 2015.

1.1 PROJECT LOCATION

SBC Reaches 112 through 117 (hereinafter referred to as the "project sites") are streambeds maintained by the LACFCD that are partially or wholly within the California coastal zone in the cities of Los Angeles, Carson, and Long Beach (Exhibit 1). The various project sites are located on the U.S. Geological Survey's (USGS') Long Beach, Los Alamitos, Torrance, and Venice 7.5-minute quadrangle maps (Exhibits 2a−2d). The locations of the various project sites are summarized below in Table 1.

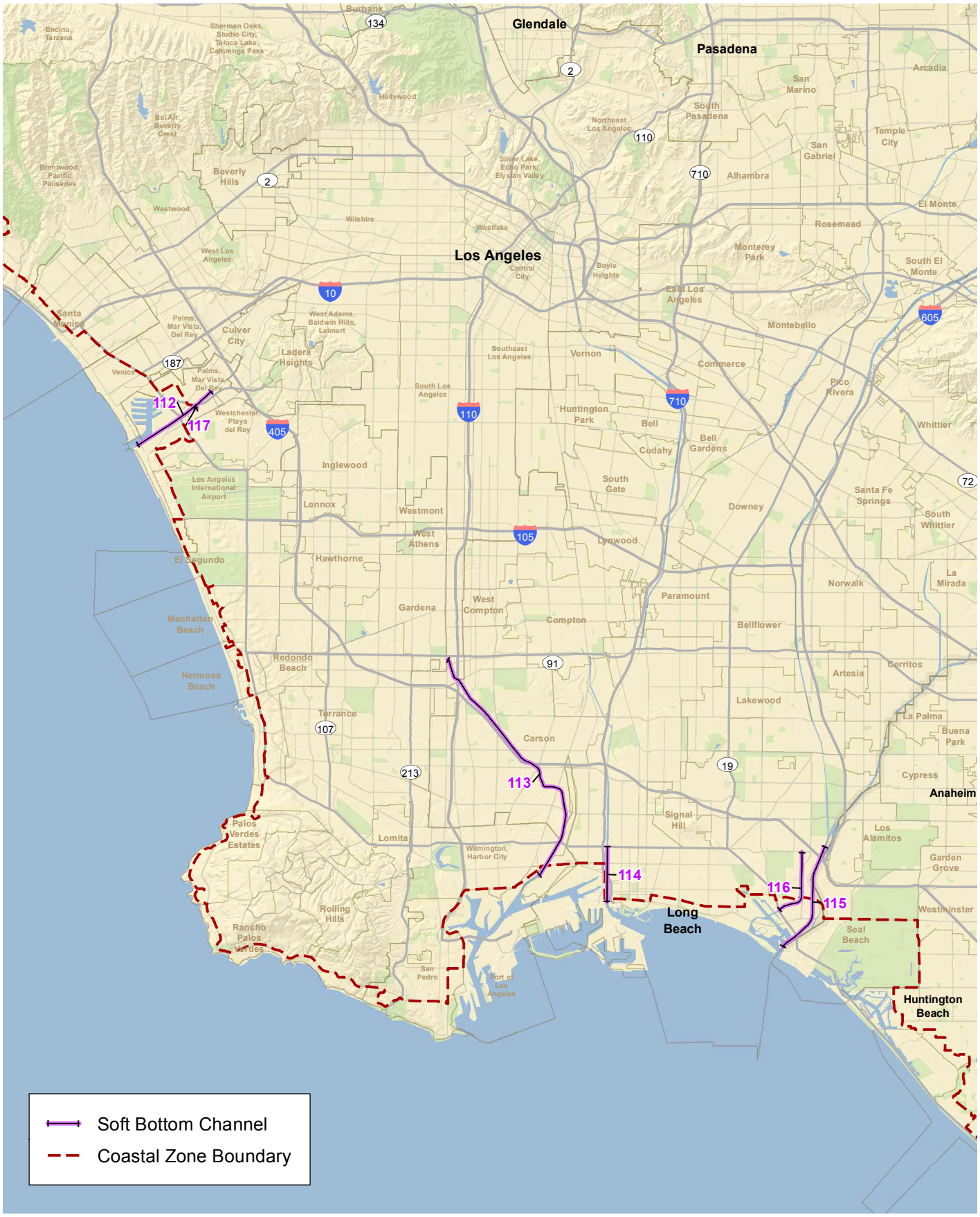
TABLE 1
SUMMARY OF PROJECT SITE LOCATIONS

SBC Reach No.	Common Name	Cities	USGS Quadrangle Map(s)	Township Range	Upstream End	Downstream End	Linear Feet
112	Ballona Creek	Los Angeles, Playa del Rey	Venice	T2S, R15W, Sections 22, 23, 27, and 28	33.986611° -118.415902°	33.962692° -118.454378°	14,315
113	Dominguez Channel	Los Angeles, Carson	Torrance, Long Beach	T3S, R13W, Section 31 T4S, R13W, Sections 5, 6, 8, 9, 15, 16, 22, 27, 33, and 34	33.870946° -118.290367°	33.777181° -118.241068°	43,080
114	Los Angeles River	Long Beach	Long Beach	T4S, R13W, Sections 26 and 35	33.790097° -118.205537°	33.765773° -118.205511°	8,712
115	San Gabriel River	Long Beach	Los Alamitos	T4S, R12W, Sections 25 and 36 T5S, R12W, Sections 1, 2, and 11	33.791147° -118.091661°	33.747121° -118.113003°	18,153
116	Los Cerritos Channel	Long Beach	Los Alamitos	T4S, R12W, Sections 26 and 35 T5S, R12W, Section 2	33.788487° -118.103499°	33.763301° -118.115090°	11,390
117	Centinela Creek	Los Angeles	Venice	T2S, R15W, Section 23	33.979334° -118.423897°	33.979188° -118.424883°	570

1.2 EXISTING CONDITIONS

The project sites are all highly modified channels with earthen bottoms and side levees constructed at approximate 1:1 slopes and protected with either concrete or riprap. Vegetation is generally sparse and is dominated by non-native species. Bottlebrush (*Callistemon* sp.), shamel ash (*Fraxinus uhdei*), castor bean (*Ricinus communis*), and fan palms (*Washingtonia* spp.) were commonly observed during the field survey. Observed native vegetation included Parish's pickleweed (*Arthrocnemum subterminale*), salt grass (*Distichlis spicata*), common woody pickleweed (*Salicornia pacifica*), and southern bulrush (*Schoenoplectus californicus*).

The National Wetlands Inventory (see Section 2.4) shows all of Reaches 114, 115, and 116 (and the lower portions of Reaches 112 and 113) as estuarine subtidal systems that are permanently flooded. The upper portion of Reach 113 and all of Reach 117 are described as tidally influenced



Regional Location

Exhibit 1

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

N W E S

4 2 0 4 Miles

BonTerra PSOMAS

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Source: USGS 7.5-minute Quadrangle
Venice

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USGS Venice Quadrangle – Reaches 112 and 117

Exhibit 2a

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

N W E S

2,000 1,000 0 2,000 Feet

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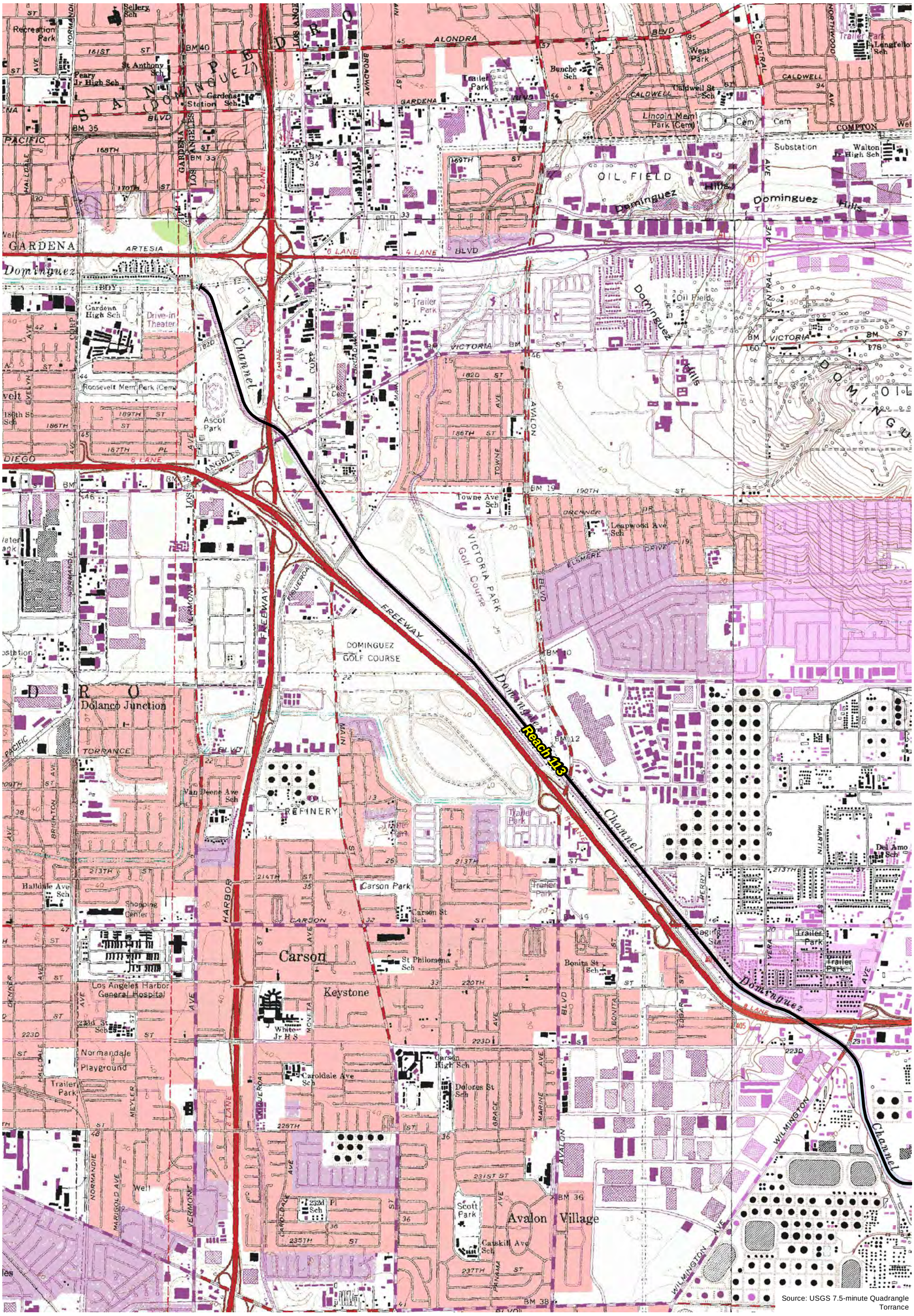

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USGS Torrance Quadrangle - Reach 113 (Upstream Half)

Exhibit 2b

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

N W E S

2,000 1,000 0 2,000 Feet

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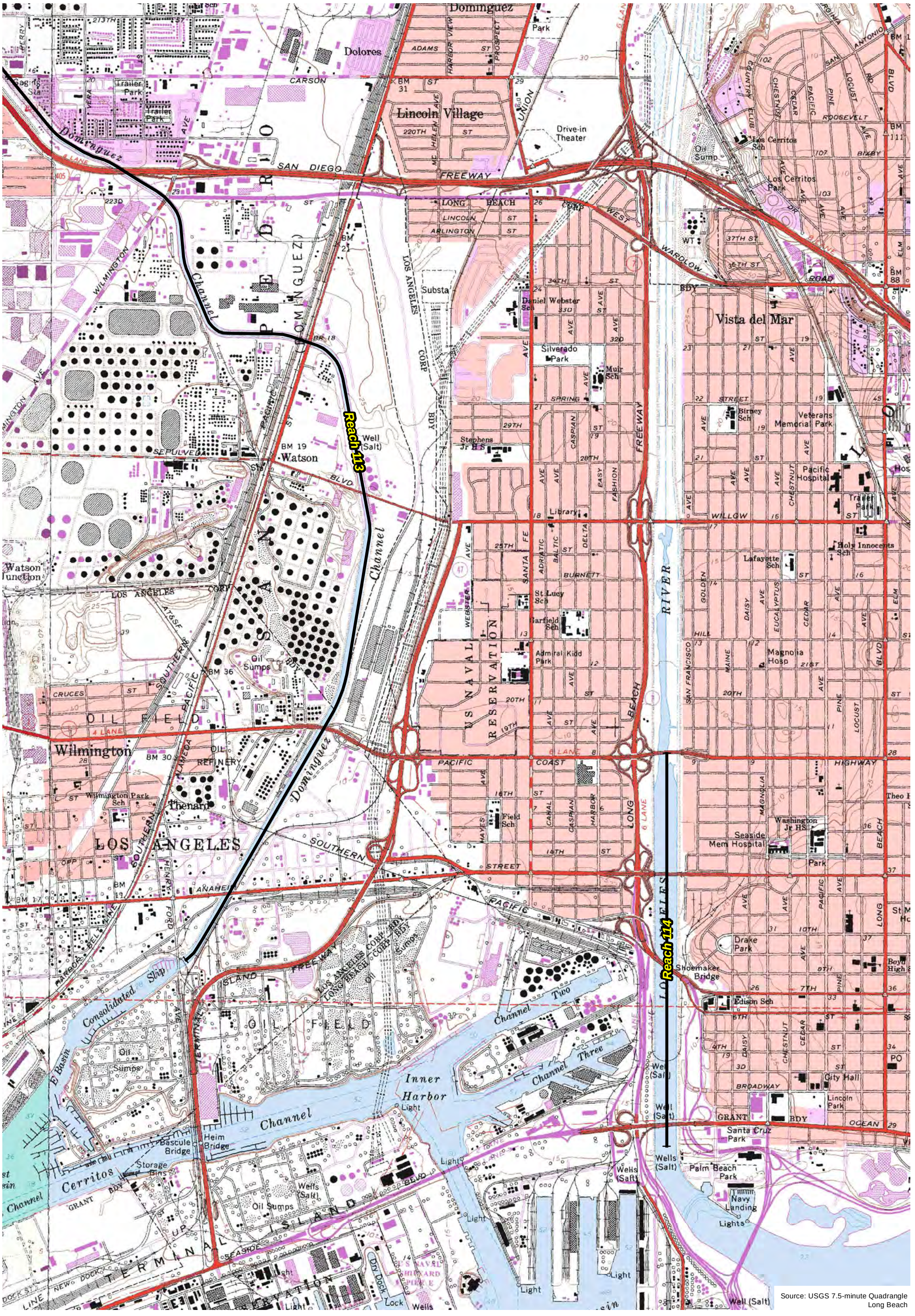
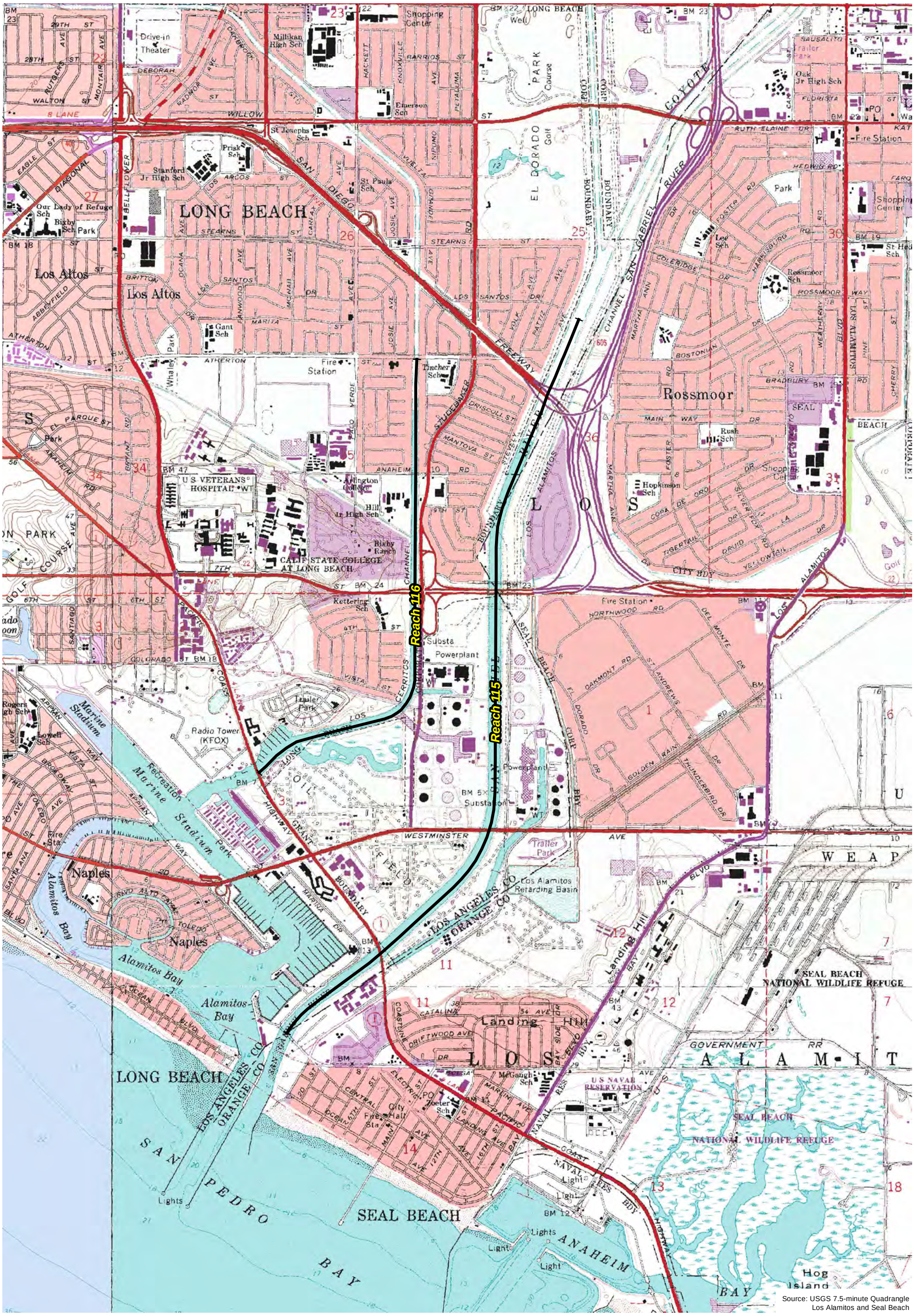

Reach 113
Reach 114
Dominguez Channel
Los Angeles River
Long Beach Harbor
Inner Harbor Channel
Terminal Island
Wilmington
Watson
Watson Junction
Lincoln Village
Vista del Mar
Dolores
Drive-in Theater
San Diego Freeway
Pacific Coast Highway
Wardlow Road
Willow Street
Seventh Street
Ocean Boulevard
Oil Fields
Oil Sumps
Refinery
Well (Salt)
Substa
Daniel Webster Sch
Silverado Park
Muir Sch
Veterans Memorial Park
Los Cerritos Park
Los Cerritos Sch
Pacific Hospital
Seaside Mem Hospital
Washington Jr HS
Lafayette Sch
Holy Innocents Sch
Magnolia Hosp
Admiral Kidd Park
Parfield Sch
St Lucy Sch
Stephens Jr HS
Birney Sch
Library
Field Sch
Wilmington Park Sch
Thenard
Drake Park
Shoemaker Bridge
Edison Sch
City Hall
Lincoln Park
Santa Cruz Park
Palm Beach Park
Navy Landing
Lights
Heim Bridge
Bascule Bridge
Storage Bins
Dry Dock
Lock
Consolidated Slip
E Basin
Channel Two
Channel Three
Gaging Sta
Trailer Park
Oil Sump
Los Cerritos Sch
Los Angeles Corp
Long Beach Corp
Harbor View
Prospect
Adams St
Carson
Sepulveda Blvd
Anaheim St
Pacific Ave
Long Beach Blvd
Alameda
Wilmington Ave
Vera Ave
Country Club
Chestnut
Cedar
Pacific
Pine
Locust
Roosevelt
Bixby
Helen Ave
Union
Lincoln
Arlington
Long Beach
Corp
West
Los Angeles
Corp
Spring
29th
28th
25th
20th
19th
16th
14th
37th St
36th St
34th
Burnett
Willow
Hill
Broadway
Grant
Bdy
Well (Salt)
Wells (Salt)
Light
Oil Sumps
Oil Refinery
Oil Field
Terminal Island
Naval Reservation
Channel
Freeway
Harbor
Canal
Caspian
Harbor
Long Beach
Fashion
Easy
Webster
Santa Fe
Adriatic
Baltic
Delta
Golden
Daisy
Eucalyptus
Cedar
Maine
San Francisco
Magnolia
Hayes
Pacific
Coast
Highway
Ocean
Seaside
Terminal
Island
Freeway
Long Beach
Blvd
Pine
Locust
Elm
Ave
St
Blvd
Rd
Dr
Pl
Ct
Hwy
Fwy
Sch
Hosp
Mem
Jr HS
Sta
Bdy
Corp
Substa
Oil Refinery
Oil Field
Naval Reservation
Terminal Island
Inner Harbor


LONG BEACH
Los Altos
Rossmoor
Naples
Alamitos Bay
LOS ALAMITOS
SEAL BEACH
SEAL BEACH NATIONAL WILDLIFE REFUGE
LONG BEACH
SAN PEDRO BAY
Reach 116
Reach 115
EL DORADO Golf
PARK
CALIF STATE COLLEGE AT LONG BEACH
U S VETERANS HOSPITAL
U S NAVAL RESERVATION
Los Alamitos Retarding Basin
Landing Hill
Marine Stadium
Recreation Park
Drive-in Theater
Millikan High Sch
Shopping Center
Emerson Sch
St Josephs Sch
Prisk Sch
Stanford Jr High Sch
Our Lady of Refuge Sch
Bixby Sch
Park
St Pauls Sch
Gant Sch
Whaley Park
Fire Station
Tincher Sch
Oak Jr High Sch
Trailer Park
Fire Station
Park
Lee Sch
Rossmoor Sch
Rush Sch
Hopkinson Sch
Hill Jr High Sch
Bixby Ranch
Kettering Sch
Substa
Powerplant
Radio Tower (KFOX)
Lowell Sch
Fire Sta
Arlington College
McGaugh Sch
Zoeter Sch
City Hall
Fire Sta
Rogers Jr High Sch
Trailer Park
Trailer Park
Los Alamitos Retarding Basin
Fire Station
Fire Station
Lights
Light
Light
Light
Lights
Hog Island
BAY
ANAHEIM
BM 12
BM 5
Substation
Powerplant
Golf
Course
Golf
Course
Golf
Course

and permanently flooded. The extreme upper end of Reach 113 is described as not tidally influenced but permanently flooded (USFWS 2014). These designations are consistent with field observations as all reaches were flooded bank to bank and a distinct high-tide line was evident on side levees.

1.3 PROJECT DESCRIPTION

The LACFCD proposes to perform large-scale one-time vegetation removal and minor repair to the flood control facilities (channels and levees). Once the facilities are returned to as-built conditions, LACFCD will perform small-scale annual maintenance activities within the project sites consisting of regular vegetation removal and minor repairs as storm damage occurs. The purpose of this work is to reduce the impact on channel flow as future growth occurs in order to avoid flooding during the rainy season. Maintenance work is expected to be done with hand tools and/or mechanical equipment, but the exact methods will differ by reach.

1.4 REGULATORY AUTHORITY

1.4.1 Summary of Regulations

U.S. Army Corps of Engineers

The USACE Regulatory Branch regulates activities that discharge dredged or fill materials into "waters of the U.S." under Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. This permitting authority applies to all "waters of the U.S." where the material (1) replaces any portion of a "waters of the U.S." with dry land or (2) changes the bottom elevation of any portion of any "waters of the U.S.". These fill materials would include sand, rock, clay, construction debris, wood chips, and materials used to create any structure or infrastructure in these waters. The selection of disposal sites for dredged or fill material is done in accordance with Section 404(b)(1) guidelines, which were developed by the U.S. Environmental Protection Agency (USEPA).

Waters of the United States

"Waters of the U.S." can be divided into three categories: territorial seas, tidal waters, or non-tidal waters. The term "waters of the U.S." is defined by the *Code of Federal Regulations* (CFR, Title 33, Navigation and Navigable Waters; Part 328, Definition of waters of the United States; §328.3, Definitions) and includes the following:

1. All waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters 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, or streams (including intermittent streams); mudflats; sand flats; wetlands; sloughs; prairie potholes; wet meadows; playa lakes; or natural ponds where the use, degradation, or destruction of which could affect interstate or foreign commerce.
4. All impoundments of waters otherwise defined as "waters of the U.S." under the definition.
5. All tributaries of waters identified above.
6. The territorial seas.

7. All wetlands adjacent to waters (other than waters that are themselves wetlands) identified above.

Ordinary High Water Mark

The landward limit of tidal "waters of the U.S." is the high-tide line. In non-tidal waters where adjacent wetlands are absent, jurisdiction extends to the ordinary high water mark (OHWM). In the absence of wetlands in non-tidal waters, the extent of jurisdictional limits is determined by the OHWM. The OHWM is defined as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (33 CFR §328.3[e]).

Wetlands

A wetland is a subset of jurisdictional waters and is defined by the USACE and the USEPA as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR §328.3[b]). Wetlands generally include swamps, marshes, bogs, and areas containing similar features. The definition and method for identifying wetland resources can be found in the USACE's *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008), a supplement to the USACE's *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). The methods contained in this supplement were used to identify the type and extent of wetland resources associated with the proposed project.

On June 19, 2006, a majority of the U.S. Supreme Court overturned two Sixth Circuit Court of Appeals decisions, finding that certain wetlands constituted "waters of the U.S." under the CWA. Justice Scalia argued that "waters of the U.S." should not include channels through which water flows intermittently or ephemerally, or channels that periodically provide drainage for rainfall. He also stated that a wetland may not be considered "adjacent to" remote "waters of the U.S." based on a mere hydrologic connection. On June 5, 2007, the USACE published a memorandum that provides guidance to both the USEPA regions and the USACE districts that implement the Supreme Court's decision in the Rapanos cases (which address the jurisdiction over "waters of the U.S." under the CWA).[1] The memorandum includes a chart that summarizes its key points, and this memorandum is intended to be used as a reference tool along with a complete discussion of issues and guidance furnished throughout the memorandum.

In summary, the USACE and the USEPA will assert jurisdiction over the following waters: (1) traditional navigable waters (TNW); (2) wetlands adjacent to a TNW; (3) relatively permanent, non-navigable tributaries of a TNW that typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and (4) wetlands that directly abut such tributaries.

The USACE and the USEPA will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a TNW: (1) non-navigable tributaries that are not relatively permanent; (2) wetlands adjacent to non-navigable tributaries that are not relatively permanent; and (3) wetlands adjacent to but that do not directly abut a relatively permanent, non-navigable tributary.

[1] Consolidated cases: *Rapanos v. United States* and *Carabell v. United States* refer to the U.S. Supreme Court's decision concerning USACE jurisdiction over "waters of the U.S." under the CWA.

The USACE and the USEPA generally will not assert jurisdiction over the following features: (1) swales or erosional features (e.g., gullies or small washes characterized by low volume, infrequent, or short duration flow) and (2) ditches (including roadside ditches) excavated wholly within and draining only uplands and that do not carry a relatively permanent flow of water.

The USACE and the USEPA will apply the significant nexus standard defined as follows:

1. A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream TNWs.
2. A significant nexus includes consideration of hydrologic and ecological factors.

Regional Water Quality Control Board

The RWQCB is the primary agency responsible for protecting water quality in California through the regulation of discharges to surface waters under the CWA and the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act). The RWQCB's jurisdiction extends to all "waters of the State" and to all "waters of the U.S.", including wetlands (isolated and non-isolated).

Section 401 of the CWA provides the RWQCB with the authority to regulate, through a Water Quality Certification, any proposed federally permitted activity that may affect water quality. Among such activities are discharges of dredged or fill material permitted by the USACE pursuant to Section 404 of the CWA. Section 401 requires the RWQCB to provide "certification that there is reasonable assurance that an activity which may result in the discharge to 'waters of the U.S.' will not violate water quality standards". Water Quality Certification must be based on a finding that the proposed discharge will comply with water quality standards, which contain numeric and narrative objectives that can be found in each of the nine RWQCBs' Basin Plans.

The Porter-Cologne Act provides the State with very broad authority to regulate "waters of the State" (which are defined as any surface water or groundwater, including saline waters). The Porter-Cologne Act has become an important tool in the post-SWANCC (*Solid Waste Agency of Northern Cook Counties vs. Unites States Corps of Engineers*) and Rapanos era with respect to the State's authority over isolated waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a "Report of Waste Discharge" when there is no federal nexus, such as under Section 404(b)(1) of the CWA. Although "waste" is partially defined as any waste substance associated with human habitation, the RWQCB interprets this to include fill discharge into water bodies.

<u>Los Angeles Region Water Quality Control Plan</u>

There are nine RWQCBs in California. The project site is located in Region 4, the Los Angeles Region. The State Water Resources Control Board (SWRCB) and the RWQCB have adopted a Water Quality Control Plan (or "Basin Plan") for the Los Angeles Region. The Basin Plan contains goals and policies, descriptions of conditions, and proposed solutions to surface and groundwater issues. The Basin Plan also establishes water quality standards for surface and groundwater resources and includes beneficial uses and levels of water quality that must be met and maintained to protect these uses. These water quality standards are implemented through various regulatory permits pursuant to CWA Section 401 for Water Quality Certifications and Section 402 for Report of Waste Discharge permits.

The Basin Plan indicates that the project sites are located in the USGS' Ballona Creek, Los Cerritos Channel, Dominguez Channel, Los Angeles River, and San Gabriel River Watershed Boundary Datasets (WBD).

The Basin Plan identifies a number of Beneficial Uses associated with the various reaches, including Commercial and Sport Fishing (COMM); Estuarine Habitat (EST); Industrial Service Supply (IND); Marine Habitat (MAR); Migration of Aquatic Organisms (MIGR); Navigation (NAV); Rare, Threatened, or Endangered Species (RARE); Water Contact Recreation (REC1) waters; Non-Contact Water Recreation (REC2) waters; Shellfish Harvesting (SHELL); Spawning, Reproduction, and/or Early Development (SPWN); Wetland Habitat (WET); and Wildlife Habitat (WILD) waters (Los Angeles RWQCB 1994). Hydrologic Unit Codes and Beneficial Uses for each of the reaches are summarized below in Table 2.

TABLE 2
SUMMARY OF BENEFICIAL USES

Reach No.	HUC	BENEFICIAL USES												
		IND	NAV	COMM	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET	REC1	REC2
112	180701040300		E	E	E	E	E	Ee	Ef	Ef	E		E	E
113	180701060102		P	E	E	E	E	Ee	Ef	Ef			Es	E
114	180701050402	E	E	E	E	E	E	Ee	Ef	Ef	P	E	E	E
115	180701060606	E	E	E	E	E	E	Ee	Ef	Ef	P		E	E
116	180701040702	E	E	E	E	E	E	Ee	Ef	Ef	E		Es	E
117	–		E	E	E	E	E	Ee	Ef	Ef	E		E	E

Note: Reach 117 (Centinela Creek) is not described in the Basin Plan, though it is expected to have the same Beneficial Uses as Reach 112 given its adjacency to Reach 112.
HUC: Hydrologic Unit Code; E: Existing Beneficial Use; Ee: One or more rare species utilizes all oceans, estuaries in the area for foraging and/or nesting; Ef: Aquatic organisms utilize all bays, estuaries, and coastal wetlands, to a certain extent for these purposes.

Possible effects on existing and potential Beneficial Uses resulting from project implementation would need to be addressed as part of the request for a CWA Section 401 Water Quality Certification for this project. Descriptions of each of the Beneficial Uses are provided below along with a brief discussion of the expected impact that the project would have on these Beneficial Uses (the latter shown in *italics*):

- COMM waters are for commercial or recreational collection of fish, shellfish, or other organisms including, but not limited to, uses involving organisms intended for human consumption or bait purposes.

  Impacts to this use are expected to be temporary and minor.

- EST waters support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife.

  All reaches discussed in this report are highly modified from their natural state. Though estuarine ecosystems are highly impacted in these reaches, the overall impact from project activities is unknown.

- IND waters are for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.

  Impacts to this use are expected to be temporary and minor.

- MAR waters support marine ecosystems including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife.

  All reaches discussed in this report are highly modified from their natural state. Though marine ecosystems are highly impacted in these reaches, the overall impact from project activities is unknown.

- MIGR waters support habitats necessary for migration, acclimatization between fresh and salt water, or other temporary activities by aquatic organisms, such as anadromous fish.

  All reaches discussed in this report are highly modified from their natural state. Though marine ecosystems are highly impacted in these reaches, the overall impact from project activities is unknown.

- NAV waters are for shipping, travel, or other transportation by private, military, or commercial vessels.

  Impacts to this use are expected to be temporary and minor.

- RARE waters support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under State or federal law as rare, threatened, or endangered.

  Green sea turtle has been observed at Reach 115. Belding's savannah sparrow was observed foraging at Reach 112. No other special status species are known to occur in the proposed work areas for this project.

- REC 1 includes water for recreational activities involving bodily contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.

  Impacts to this Use are expected to be temporary and minor.

- REC 2 includes water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

  Impacts to this use are expected to be temporary and minor.

- SHELL waters support habitats suitable for the collection of filter-feeding shellfish (e.g., clams, oysters, and mussels) for human consumption, commercial, or sports purposes.

  This use is non-specific to the reaches discussed in this report (i.e., the Basin Plan assumes that all coastal channels have the potential to be utilized by shellfish). The project's potential effect on this use is unknown.

- SPWN waters support high quality aquatic habitats suitable for reproduction and early development of fish.

  This use is non-specific to the reaches discussed in this report (i.e., the Basin Plan assumes that all coastal channels have the potential to be utilized for spawning). The project's potential effect on this use is unknown.

- WET waters support wetland ecosystems, including, but not limited to, preservation or enhancement of wetland habitats, vegetation, fish, shellfish, or wildlife, and other unique wetland functions which enhance water quality, such as providing flood and erosion control, stream bank stabilization, and filtration and purification of naturally occurring contaminants.

  Wetlands occur at Reaches 112 and 114. Emergent wetland vegetation (principally southern bulrush) occurs in accumulated sediment in both these reaches. Proposed maintenance activities would impact these wetland areas.

- WILD waters support wildlife habitats that may include, but are not limited to, the preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife.

  The project involves removal of vegetation to reduce the potential for flooding. Therefore, the project will have an impact on wildlife habitat, though the severity of the impact is not known.

California Department of Fish and Wildlife

The CDFW has jurisdictional authority over wetland resources associated with rivers, streams, and lakes pursuant to the *California Fish and Game Code* (§§1600–1616). Activities of State and local agencies as well as public utilities that are project proponents are regulated by the CDFW under Section 1602 of the *California Fish and Game Code;* this section regulates any work that will (1) substantially divert or obstruct the natural flow of any river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

Because the CDFW includes streamside habitats (e.g. riparian forests) under its jurisdiction that, under the federal definition, may not qualify as wetlands on a particular project site, its jurisdiction may be broader than that of the USACE. Riparian forests in California often lie outside the plain of ordinary high water regulated under Section 404 of the CWA and often do not have all three parameters (wetland hydrology, hydrophytic vegetation, and hydric soils) sufficiently present to be regulated as a wetland. However, riparian forests are frequently within CDFW regulatory jurisdiction under Section 1602 of the *California Fish and Game Code.*

The CDFW enters into a Lake or Streambed Alteration Agreement (SAA) with a project proponent and can impose conditions on the agreement. The notification process involves the completion of the applications which will serve as the basis for the CDFW's issuance of a Section 1602 SAA. Section 1602 of the *California Fish and Game Code* applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State.

The CDFW jurisdictional limits are not as clearly defined by regulation as those of the USACE. While they closely resemble the limits described by USACE regulations, they include riparian habitat supported by a river, stream, or lake regardless of the presence or absence of hydric and saturated soils conditions. In general, the CDFW takes jurisdiction from the top of a stream bank or to the outer limits of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place within or in the vicinity of a river, stream, lake, or its tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish and other aquatic plant and/or wildlife species, and watercourses that have a surface or subsurface flow that support or have supported riparian vegetation.

2.0 METHODS

The analysis contained in this report uses the results of field surveys conducted by BonTerra Psomas Regulatory Specialists David Hughes and Katie Gallagher on February 20 and 23, 2015. The three-parameter approach used to identify USACE wetlands is summarized in Sections 2.1 through 2.3; the literature reviewed for the preparation of the delineation is outlined in Section 2.4; the California Rapid Assessment Method (CRAM) is outlined in Section 2.5; and the field delineation is outlined in Section 2.6.

2.1 VEGETATION

Hydrophytic vegetation (or hydrophytes) is defined as any macrophytic plant that "grows in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content; plants typically found in wet habitats" (Environmental Laboratory 1987). Specifically, these plant species have specialized morphological, physiological, or other adaptations for surviving in permanently saturated to periodically saturated soils where oxygen levels are very low or the soils are anaerobic. The USACE—as part of an interagency effort with the USEPA, the USFWS, and the U.S. Department of Agriculture Natural Resources Conservation Service—has approved a new National Wetland Plant List (NWPL) (Lichvar and Kartesz 2009) to replace the *National List of Plant Species that Occur in Wetlands* (Reed 1988). The NWPL went into effect on June 1, 2012, and is to be used to determine whether the hydrophytic vegetation parameter is met when conducting wetland determinations under the CWA and the Wetland Conservation Provisions of the Food Security Act. The NWPL is also intended to be used for wetland restoration, establishment, and enhancement projects. This report utilized the indicator statuses for the Arid West Supplement portion of the NWPL.

The following revisions were made to the Reed (1988) List pursuant to the NWPL:

1. The USACE eliminated the "probability-of-occurrence" categories (e.g., <1 percent, 1-33 percent, 34–66 percent, 67–99 percent, and >99 percent) due to the lack of numerical data to support these ratings.
2. The USACE determined that, because the wetland plant indicator statuses have shifted from a series of numerical categories to qualitative definitions, the use of +/– suffixes is difficult to apply accurately. Adding finer-scale +/– ratings implies there are data to support their assignments, which is generally not the case. Therefore, to improve the accuracy of the overall list, the USACE decided to drop the +/– suffixes.

Lichvar and Gillrich (2011) provide updated technical definitions of wetland plant indicator status categories as part of the procedures used in updating the NWPL:

- **Obligate Wetland (OBL):** These wetland-dependent plants (herbaceous or woody) require standing water or seasonally saturated soils (14 or more consecutive days) near the surface to ensure adequate growth, development, and reproduction and to maintain healthy populations. These plants are of four types:
    - *submerged:* plants that conduct virtually all of their growth and reproductive activity under water.
    - *floating:* plants that grow with leaves and most often their vegetative and reproductive organs floating on the water surface.
    - *floating-leaved:* plants that are rooted in sediment but also have leaves that float on the water surface.

  - *emergent:* herbaceous and woody plants that grow with their bases submerged and rooted in inundated sediment or seasonally saturated soil and their upper portions, including most of the vegetative and reproductive organs, growing above the water level.

- **Facultative Wetlands (FACW):** These plants depend on and predominantly occur with hydric soils, standing water, or seasonally high water tables in wet habitats for assuring optimal growth, development, and reproduction and for maintaining healthy populations. These plants often grow in geomorphic locations where water saturates soils or floods the soil surface at least seasonally.
- **Facultative (FAC):** These plants can occur in wetlands or non-wetlands. They can grow in hydric, mesic, or xeric habitats. The occurrence of these plants in different habitats represents responses to a variety of environmental variables other than just hydrology (e.g., shade tolerance, soil hydrogen potential [pH], and elevation) and they have a wide tolerance of soil moisture conditions.
- **Facultative Upland (FACU):** These plants are not wetland dependent. They can grow on hydric and seasonally saturated soils, but they develop optimal growth and healthy populations on predominantly drier or more mesic sites. Unlike FAC plants, these plants are non-wetland plants by habitat preference.
- **Obligate Upland (UPL):** These plants occupy mesic to xeric non-wetland habitats. They almost never occur in standing water or saturated soils. Typical growth forms include herbaceous, shrubs, woody vines, and trees.

As identified in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region,* the following are three procedures for determining hydrophytic vegetation: Indicator 1, "Dominance Test", using the "50/20 Rule"; Indicator 2, "Prevalence Index"; or Indicator 3, "Morphological Adaptation" (USACE 2008). Hydrophytic vegetation is present if any indicator is satisfied. If none of the indicators are satisfied, then hydrophytic vegetation is absent unless (1) indicators of hydric soil and wetland hydrology are present and (2) the site meets the requirements for a problematic wetland situation.

- **Dominance Test:** Vegetative cover is estimated and is ranked according to its dominance. Dominant species are the most abundant species for each stratum of the community (i.e., tree, sapling/shrub, herb, or woody vine) that individually or collectively amount to 50 percent of the total coverage of vegetation plus any other species that, by itself, accounts for 20 percent of the total vegetation cover (also known as the "50/20 Rule"). These species are recorded on the "Wetland Determination Data Form – Arid West Region". The wetlands indicator status of each species is also recorded on the data forms based on the NWPL (Lichvar and Kartesz 2009). If greater than 50 percent of the dominant species across all strata are OBL, FACW or FAC species, the criterion for wetland vegetation is considered to be met.
- **Prevalence Index:** The prevalence index considers all plant species in a community, not just the dominant ones. The prevalence index is the average of the wetland indicator status of all plant species in a sampling plot. Each indicator status category is given a numeric code (OBL=1, FACW=2, FAC=3, FACU=4, and UPL=5) and is weighted by the species' abundance (percent cover). Hydrophytic vegetation is present if the prevalence index is 3.0 or less.
- **Morphological Adaptation:** Morphological adaptations, such as adventitious roots (i.e., roots that take advantage of the wet conditions) and shallow root systems, must be observed on more than 50 percent of the individuals of a FACU species for the hydrophytic vegetation wetland criterion to be met.

2.2 SOILS

The National Technical Committee for Hydric Soils defines a hydric soil as a soil that is formed under conditions of saturation, flooding, or ponding that occurs long enough during the growing season to develop anaerobic conditions (or conditions of limited oxygen) at or near the soil surface and that favor the establishment of hydrophytic vegetation (USDA NRCS 2008). It should be noted that hydric soils created under artificial conditions of flooding and inundation sufficient for the establishment of hydrophytic vegetation would also meet this hydric soils indicator.

The soil conditions are verified by digging test pits along each transect to a depth of at least 20 inches (except where a restrictive layer occurs in areas containing hard pan, cobble, or solid rock). It should be noted that, at some sites, it may be necessary to make exploratory soil test pits up to 40 inches deep to more accurately document and understand the variability in soil properties and hydrologic relationships on the site. Soil test pit locations are usually dug within the drainage invert or at the edge of a drainage course within vegetated areas. Soil extracted from each soil test pit is then examined for texture and color using the standard plates within the Munsell Soil Color Chart (1994) and recorded on the Data Form. The Munsell Soil Color Chart aids in designating soils by color labels based on gradations of three simple variables: hue, value, and chroma. Any indicators of hydric soils such as the following are also recorded on the Data Form: redoximorphic features (i.e., areas where iron is reduced under anaerobic conditions and oxidized following a return to aerobic conditions); buried organic matter; organic streaking; reduced soil conditions; gleyed (i.e., soils having a characteristic bluish-gray or greenish-gray in color) or low-chroma soils; or sulfuric odor. If hydric soils are found, progressive pits are dug along the transect moving laterally away from the active channel area until hydric soil features are no longer present within the top 20 inches of the soil.

2.3 HYDROLOGY

Wetlands hydrology is represented by either (1) all of the hydrological elements or characteristics of areas permanently or periodically inundated or (2) areas containing soils that are saturated for a sufficient duration of time to create hydric soils suitable for the establishment of plant species that are typically adapted to anaerobic soil conditions. The presence of wetland hydrology is evaluated at each intersect by recording the extent of observed surface flows; the depth of inundation; the depth to saturated soils; and the depth to free water in soil test pits. In instances where stream flow is divided into multiple channels with intervening sandbars, the entire area between the channels is considered within the OHWM. Therefore, an area containing these features would meet the indicator requirements for wetland hydrology.

2.4 LITERATURE

Prior to conducting the delineation field investigations, BonTerra Psomas reviewed USGS topographic maps; the National Wetlands Inventory's (NWI) Wetland Mapper (USFWS 2014); and digital color aerial photography to identify areas on the project site that may fall under an agency's jurisdiction. A description of this literature is provided below.

U.S. Geological Survey Topographic Quadrangle. USGS quadrangle maps show geological formations and their characteristics; they describe the physical settings of an area through topographic contour lines and other major surface features. These features include lakes, streams, rivers, buildings, roadways, landmarks, and other features that may fall under the jurisdiction of one or more regulatory agencies. In addition, the USGS maps provide topographic information that is useful in determining elevations, latitude and longitude, and Universal Transverse Mercator Grid coordinates for a project site.

The project sites are shown on the USGS' Long Beach, Los Alamitos, Torrance, and Venice 7.5-minute quadrangle maps.

Color Aerial Photography. BonTerra Psomas reviewed an existing color aerial photograph prior to the delineation field investigations to identify the extent of any drainages and riparian vegetation occurring on the project sites.

U.S. Fish and Wildlife Service, National Wetlands Inventory. The NWI Wetlands Mapper shows wetland resources available from the Wetlands Spatial Data Layer of the National Spatial Data Infrastructure (USFWS 2014). This resource provides the classification of known wetlands following the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979). This classification system is arranged in a hierarchy of (1) systems that share the influence of similar hydrologic, geomorphologic, chemical, or biological factors (i.e., Marine, Estuarine, Riverine, Lacustrine, and Palustrine); (2) subsystems (i.e., Subtidal and Intertidal; Tidal, Lower Perennial, Upper Perennial, and Intermittent; or Littoral and Limnetic); (3) classes, which are based on substrate material and flooding regime or on vegetative life forms; (4) subclasses; and (5) dominance types, which are named for the dominant plant or wildlife forms. In addition, there are modifying terms applied to Classes or Subclasses. Wetlands that are identified in the NWI are shown in Exhibit 3 and are summarized below in Table 3.

TABLE 3
NATIONAL WETLAND INVENTORY

SBC Reach No.	Cowardin Codes*
112	E1UBLx R1UBVx
113	E1UBLx R1UBVx R2UBHx R2UBHr
114	E1UBLx PEMRx
115	E1UBLx
116	E1UBLx
117	E1UBLx PEMR
* from Cowardin et al. 1979.	

Descriptions for the Cowardin Codes listed in Table 3 are defined below.

E1UBLx

- ***E: System ESTUARINE.*** The Estuarine System describes deepwater tidal habitats and adjacent tidal wetlands that are influenced by water runoff from and often semi-enclosed by land. They are located along low-energy coastlines and they have variable salinity.
    - ***1: Subsystem SUBTIDAL.*** These habitats are continuously submerged substrate (i.e., below extremely low water).
        - ***UB: Class UNCONSOLIDATED BOTTOM.*** Includes all wetlands and deepwater habitats with at least 25 percent cover of particles smaller than stones (i.e., less than 6–7 centimeters [cm]) and a vegetative cover that is less than 30 percent.



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National Wetlands Inventory - Reaches 112 and 117

Exhibit 3a

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

N W E S

2,000 1,000 0 2,000 Feet

Bonterra PSOMAS

(Rev: 3-18-2015 CJS) R:\Projects\CoLADPW (DPW)\J275\Graphics\JD\Ex3_JD_NWI_20150309.pdf



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National Wetlands Inventory - Reach 113 (Upstream Half)

Exhibit 3b

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

N W E S

2,000 1,000 0 2,000 Feet

BonTerra PSOMAS

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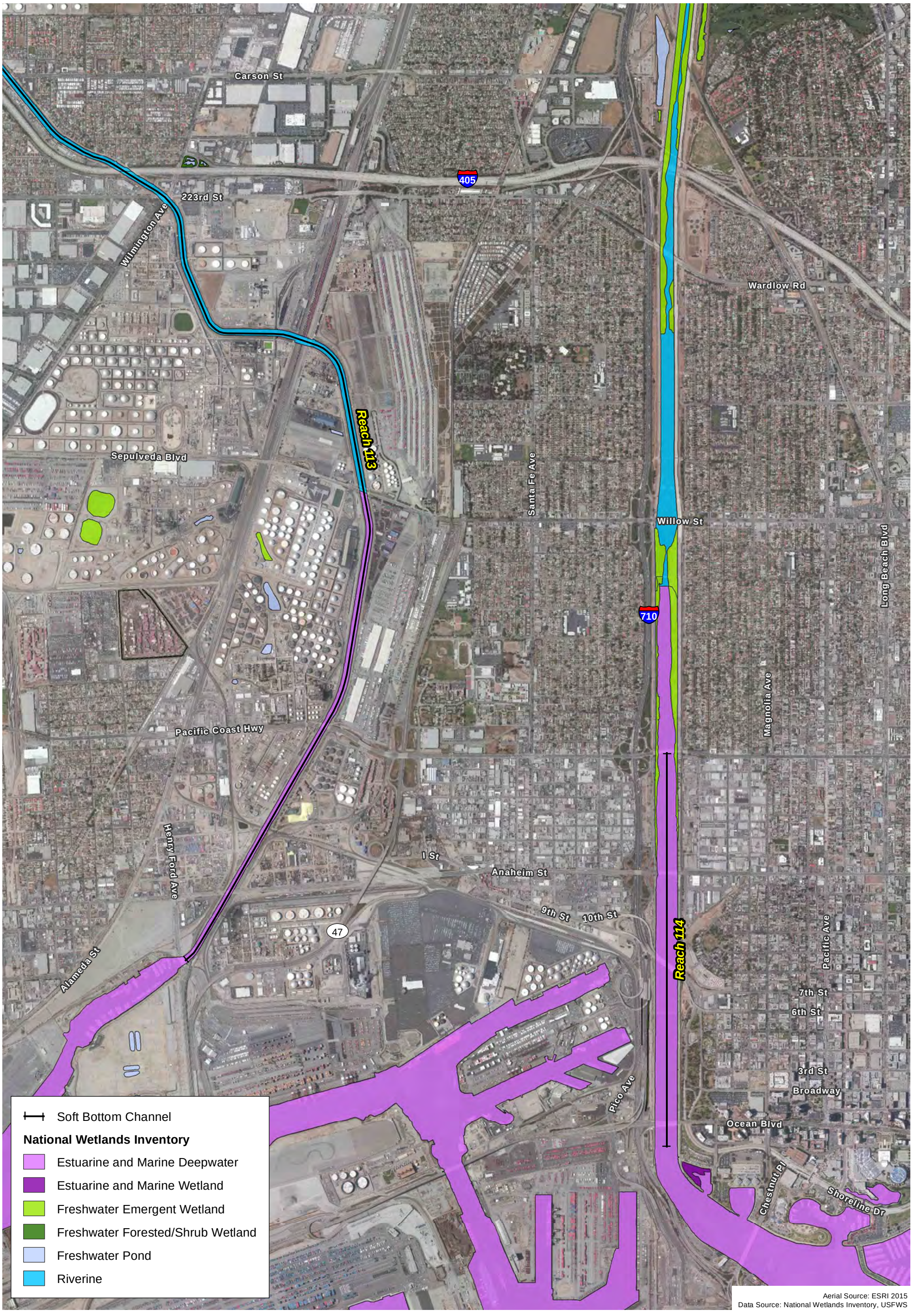

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National Wetlands Inventory – Reach 113 (Downstream Half) and Reach 114

Exhibit 3c

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

N W E S

2,000 1,000 0 2,000 Feet

BonTerra PSOMAS

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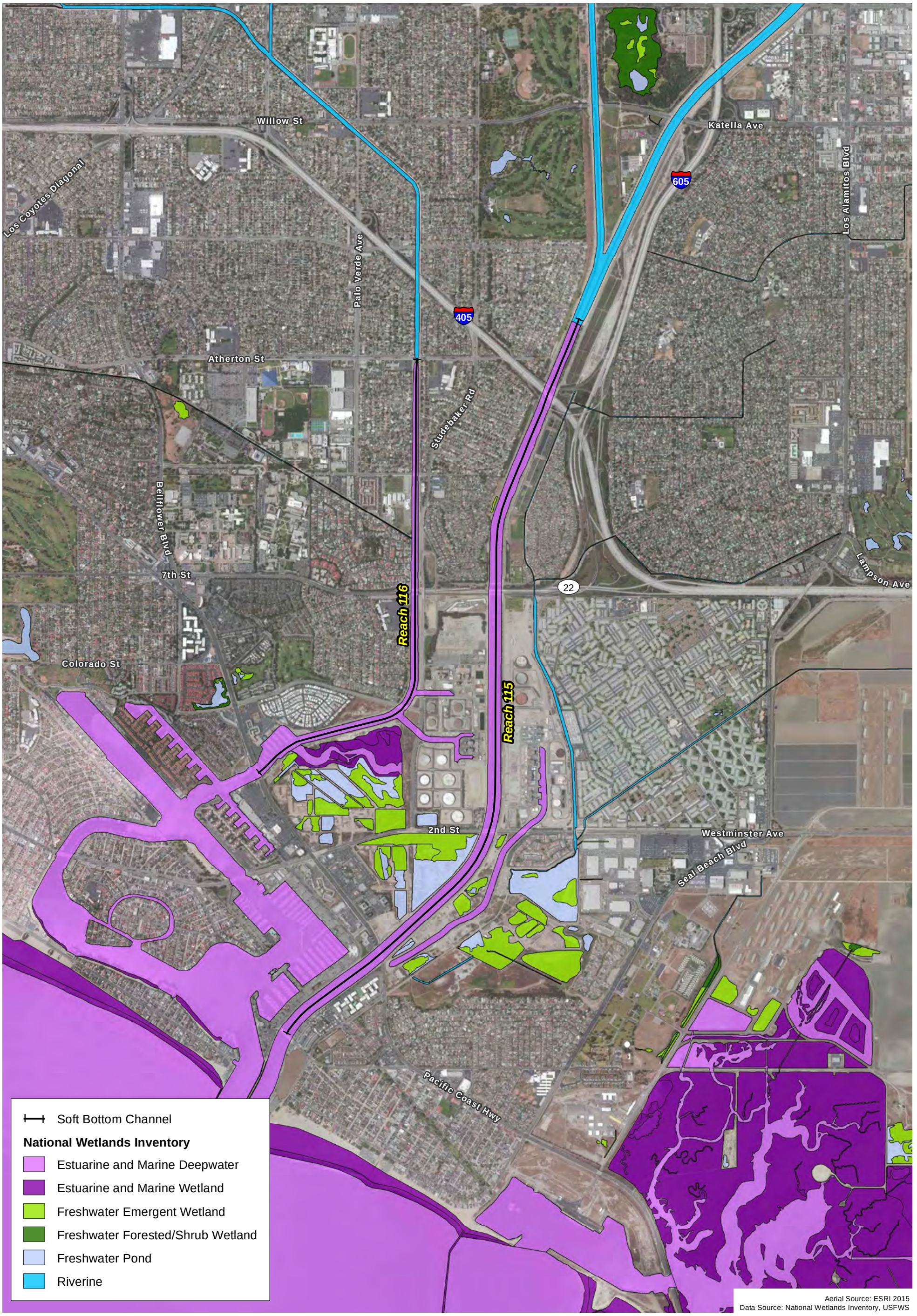

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National Wetlands Inventory – Reaches 115 and 116

Exhibit 3d

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

N W E S

2,000 1,000 0 2,000 Feet

BonTerra PSOMAS

(Rev: 3-18-2015 CJS) R:\Projects\CoLADPW (DPW)\J275\Graphics\JD\Ex3_JD_NWI_20150309.pdf

- ***L: Water Regime Modifier SUBTIDAL.*** The substrate is permanently flooded with tidal water.
  - ***x: Special Modifier EXCAVATED.*** Lies within a basin or channel that have been dug, gouged, blasted or suctioned through artificial means.

R1UBVx, R2UBHx, and R2UBHr

- ***R: System RIVERINE.*** The Riverine System includes all wetlands and deepwater habitats contained in natural or artificial channels periodically or continuously containing flowing water or which forms a connecting link between the two bodies of standing water. Upland islands or Palustrine wetlands may occur in the channel, but they are not part of the Riverine System.
  - ***1: Subsystem TIDAL.*** This Subsystem of Riverine extends from the upper boundary of the Estuarine System to the extreme upper limit of tidal fluctuations. The tidal reach terminates downstream where the concentration of ocean-derived salts in water exceeds 0.5 part per trillion (ppt) during a period of annual average low flow. The gradient is low and water velocity fluctuates under tidal influence. The floodplain is typically well developed.
  - ***2: Subsystem LOWER PERENNIAL.*** This Subsystem is characterized by a low gradient and slow water velocity. There is no tidal influence, and some water flows throughout the year. The substrate consists mainly of sand and mud. The floodplain is well developed. Oxygen deficits may sometimes occur.
    - ***UB: Class UNCONSOLIDATED BOTTOM.*** Includes all wetlands and deepwater habitats with at least 25 percent cover of particles smaller than stones (i.e., less than 6–7 cm) and a vegetative cover less than 30 percent.
      - ***V: Water Regime Modifier PERMANENT TIDAL.*** Palustrine, Riverine, and Lacustrine wetlands that are flooded by fresh water tides that covers the land surface throughout the year in all years are permanently flooded-tidal.
      - ***H: Water Regime Modifier PERMANENTLY FLOODED.*** Water covers the land surface throughout the year in all years.
        - ***x: Special Modifier EXCAVATED.*** Lies within a basin or channel that have been dug, gouged, blasted or suctioned through artificial mean.
        - ***r: Special Modifier ARTIFICIAL SUBSTRATE.*** Substrates (Rock Bottom, Unconsolidated Bottom, Rocky Shore and Unconsolidated Shore) that were emplaced by man using natural materials such as rock, unconsolidated materials or synthetic materials such as discarded automobiles, building materials, and tires.

PEMRx and PEMR

- ***P: System PALUSTRINE.*** The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, emergents, mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppt. Wetlands lacking such vegetation are also included if they exhibit all of the following characteristics: (1) less than 8 hectares (20 acres); (2) a lack of an active wave-formed or bedrock shoreline feature; (3) a depth less than 2 meters (6.6 feet) in the deepest part of the basin at low water; and (4) salinity due to ocean-derived salts of less than 0.5 ppt.

- ***Subsystem NONE*.**
  - ***EM: Class EMERGENT.*** Characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.
    - ***R: Water Regime Modifier SEASONAL TIDAL.*** Palustrine, Riverine, and Lacustrine wetlands that are flooded by fresh water tides for extended periods, especially early in the growing season, but are absent by the end of the growing season in most years are seasonally flooded-tidal. The water table after flooding ceases is variable, extending from saturated to the surface to a water table well below the ground surface.
      - ***x: Special Modifier EXCAVATED.*** Lies within a basin or channel that have been dug, gouged, blasted or suctioned through artificial means.

2.5 JURISDICTIONAL DELINEATION

In September 2008, the USACE issued the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. This regional supplement is designed for use with the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987). Both the 1987 Wetlands Manual and the Arid West Supplement to the manual provide technical methods and guidelines for determining the presence of wetland "waters of the U.S.". A three-parameter approach is used to identify wetlands and requires evidence of wetland hydrology, hydrophytic vegetation, and hydric soils. Wetlands generally include swamps, marshes, bogs, and similar areas. In order to be considered a wetland, an area must exhibit at least minimal hydric characteristics within the three parameters. However, problem areas may periodically or permanently lack certain indicators due to seasonal or annual variability of the nature of the soils or plant species on site. Atypical wetlands lack certain indicators due to recent human activities or natural events. Guidance for determining the presence of wetlands in these situations is presented in the regional supplement.

Non-wetland "waters of the U.S." are generally delineated based on the limits of the OHWM, which can be determined by a number of factors including erosion, the deposition of vegetation or debris, and changes in vegetation. These factors were generally not evident at the project sites because the banks of the reaches have been hardened and/or covered with riprap. However, because most the project sites were subject to ocean tides, discoloration at the high tide line was evident and was used to delineate the OHWM. Tide charts were reviewed prior to field visits to determine the distance between current water levels and the high tide level.

It should be noted that the RWQCB shares USACE jurisdiction unless isolated conditions are present. If isolated waters conditions are present, the RWQCB takes jurisdiction using the USACE's definition of the OHWM and/or the three-parameter wetlands method pursuant to the 1987 Wetlands Manual. The CDFW's jurisdiction is defined as the top of the bank to the top of the bank of the stream, channel, or basin or to the outer limit of riparian vegetation located within or immediately adjacent to the river, stream, creek, pond, or lake or other impoundment.

Jurisdictional limits were mapped using a 1 inch equals 100 foot (1″ = 100′) scale aerial photograph.

The field survey included the collection of soil at one sampling point at Reach 117 to determine if hydric soils were present. Vegetation and hydrologic data were also collected at this location and recorded on a Wetland Determination Data Form (Attachment A). Additional soil collection was not possible as the other project sites did not contain soil or did not have soil that could safely be accessed. Representative photographs of the project sites are included in Attachment B.

3.0 RESULTS

3.1 VEGETATION

The project sites are sparsely vegetated in general and unvegetated for long stetches. Native species are uncommon at the project sites. Vegetation only occurrs along the OHWM boundary and not in the middle of the reaches. The only portion of the project sites that is densely vegetated is at the upstream end of Reach 115 which is dominated by shamel ash and fan palms. A summary of vegetation observed at the project sites is provided in Table 4.

TABLE 4
SUMMARY OF VEGETATION CONDITIONS

SBC Reach No.	Vegetation Conditions Observed
112	Fan palms (*Washingtonia* spp.) and southern bulrush (*Schoenoplectus californicus*) observed downstream of Centinela Avenue. Otherwise, this reach is essentially unvegetated, except for areas downstream of Culver Avenue, which contain native species such as coyote bush (*Baccharis pilularis*) and laurel sumac (*Malosma laurina*) on the upper banks.
113	Channel is vegetated very sparsely overall. Common species include salt grass (*Distichlis spicata*), seashore paspalum (*Paspalum vaginatum*), Parish's pickleweed (*Arthrocnemum subterminale*), and common woody pickleweed (*Salicornia pacifica*) along the lower banks of the channel with bottlebrush (*Callistemon* sp.), crimson fountain grass (*Pennisetum setaceum*), and fan palms occurring along the upper banks.
114	Small amount of vegetation occurs along the channel banks between Pacific Coast Highway and Anaheim Street. Vegetation consists of shortpod mustard (*Hirschfeldia incana*), Italian thistle (*Carduus pycnocephalus*), and southern bulrush. Downstream of Anaheim Street, the channel is essentially unvegetated.
115	Channel is densely vegetated upstream of the I-405 overpass, consisting of shamel ash (*Fraxinus uhdei*), fan palms, castor bean (*Ricinus communis*), giant reed (*Arundo donax*), Italian thistle, shortpod mustard, and bottlebrush. Channel edge is moderately vegetated between I-405 and SR-22. Downstream of SR-22, the channel is sparsely vegetated with occasional bottlebrush and crimson fountain grass.
116	The edges of the channel are sparsely vegetated overall with patches of Parish's pickleweed.
117	The downstream banks (at confluence with Reach 112) have an accumulation of sediment on which seashore paspalum is densely established.
SBC: soft-bottom channel; I: Interstate; SR: State Route	

Of the species described above, the only species that are considered hydrophytic include southern bulrush (OBL), Parish's pickleweed (OBL), giant reed (*Arundo donax*) (FACW), fan palm (FACW), and castor bean (FACU).

3.2 SOILS

Soils consist of accumulated sediment along the lower banks of each reach. The only location that allows for soil collection is at Reach 117. Soil consists of a layer of silty clay on top clayey sand and no hydric soil indicators were observed. Soils at other reaches either do not exist or were inaccessible for collection.

3.3 HYDROLOGY

The entirety of Reaches 112, 114, 115, 116, and 117 are located in the tidal zone and are therefore permanently inundated. Most of Reach 113 is also located in the tidal zone, and the uppermost section has perennial flows from upstream areas. Therefore, wetland hydrology occurs in all of the reaches described in this report.

4.0 JURISDICTIONAL DELINEATION

4.1 U.S. ARMY CORPS OF ENGINEERS DETERMINATION

4.1.1 "Waters of the U.S." Determination (Non-wetland)

Non-wetland "waters of the U.S." are drainage features that conduct water at some point during the year (evidenced by the presence of an OHWM) but do not satisfy all three criteria to be considered a wetland. The limits of non-wetland "waters of the U.S." are defined by the presence of the OHWM though the jurisdictional limits for Reaches 112 through 117 were determined in most parts by the high tide boundary, marked by evident discoloration along the side levees. Limits for "waters of the U.S." were determined in areas above the high tide limits by similar discoloration of perennial water levels or placement of trash/vegetative debris.

Reach 114 is part of the Los Angeles River, a Traditional Navigable Waterway (TNW). All of the other reaches drain directly into the Pacific Ocean. As tributaries to the Pacific Ocean, Reaches 112, 113, 115, 116, and 117 are considered "Relatively Permanent Waters", due to their "Significant Nexus" with the Pacific Ocean. Therefore, all of the reaches either are, or drain directly into a TNW and are therefore considered to be "waters of the U.S.". For these reasons, all of the reaches would be under the jurisdiction of the USACE.

In all, a total of 491.3 acres of non-wetland "waters of the U.S." occur on the project sites (Table 5; Exhibits 4a–4d).

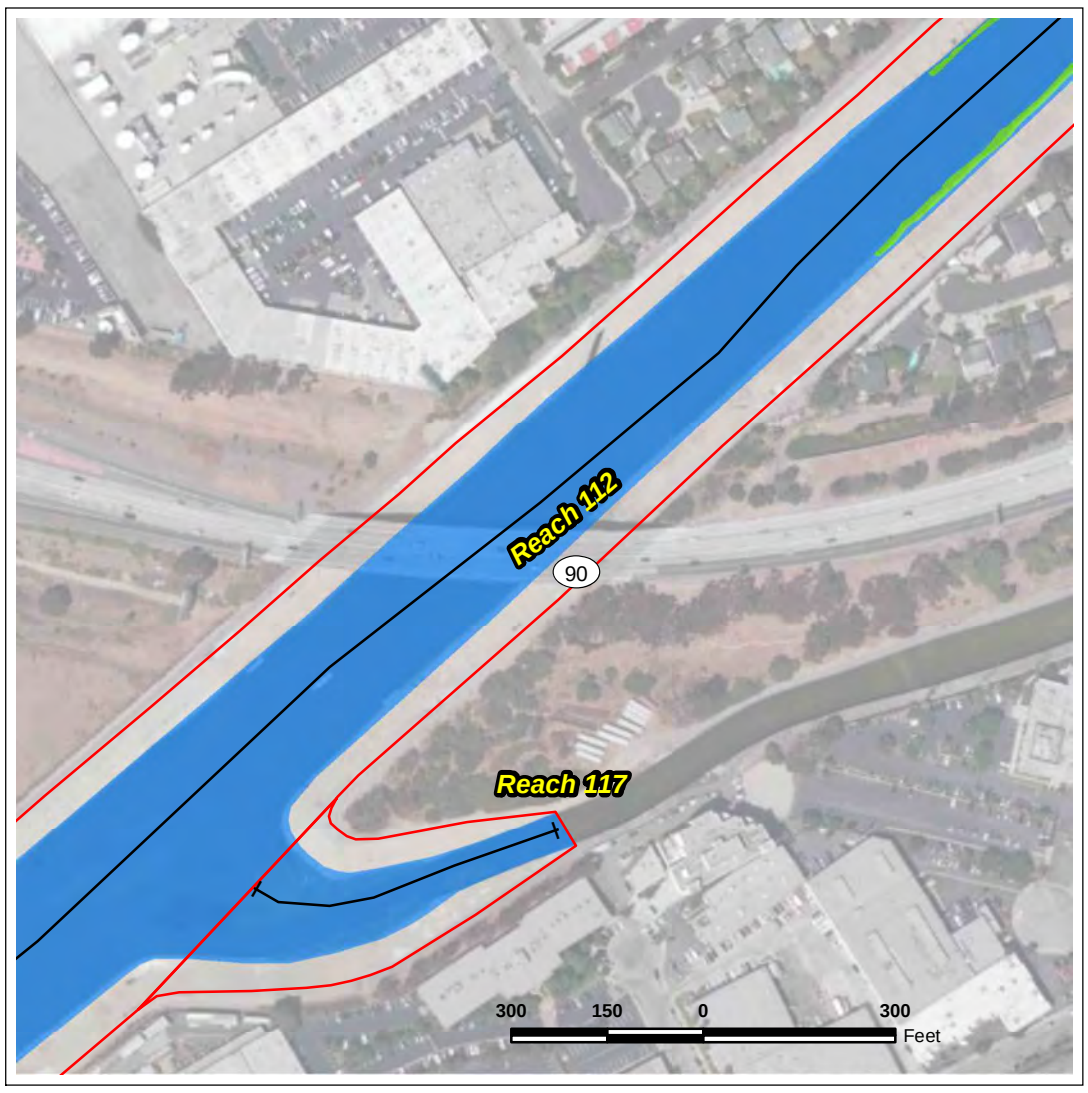
4.1.2 Wetland "Waters of the U.S." Determination

As previously described in Section 2.0 of this report, an area must exhibit all three wetland parameters, as described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008) and the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) in order to be considered a jurisdictional wetland.

A soil pit was excavated only at Reach 117 as accumulated sediment could not be safely accessed at other locations or no soil was present (i.e. channel surfaces were concrete). These areas are dominated by seashore paspalum (*Paspalum vaginatum*) designated as a FACW species. Therefore these areas met the criteria for the presence of hydrophytic vegetation and wetland hydrology. However, no hydric soil indicators were noted so that this area was not designated as a wetland (Wetland Determination Data Form is provided in Attachment A).

Though wetland soils were not sampled, southern bulrush (OBL) was observed growing in sediment along the edges of Reaches 112 and 114. The occurrence of this species combined with perennially flowing water in Reaches 112 and 114 suggests wetland conditions exist in portions of these channels.

Additionally, salt grass (FAC) and seashore paspalum (FACW) occur along the lower bank of Reach 113. These two species are generally co-dominant where present between approximately West 182 Street and Avalon Boulevard and also include Parish's pickleweed (FACW) and common woody pickleweed (OBL). Due the presence of OBL and FACW species in these areas, they have been mapped as wetlands and generally coincide with areas mapped as "disturbed coastal salt marsh" in the *Biological Technical Report for the Dominguez Soft Bottom Channel Reach Maintenance Project, Los Angeles County, California* (Chambers 2014), provided in Attachment C.





Jurisdictional Delineation – Reaches 112 and 117

Exhibit 4a

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

N W E S

2,000 1,000 0 2,000 Feet

BonTerra PSOMAS

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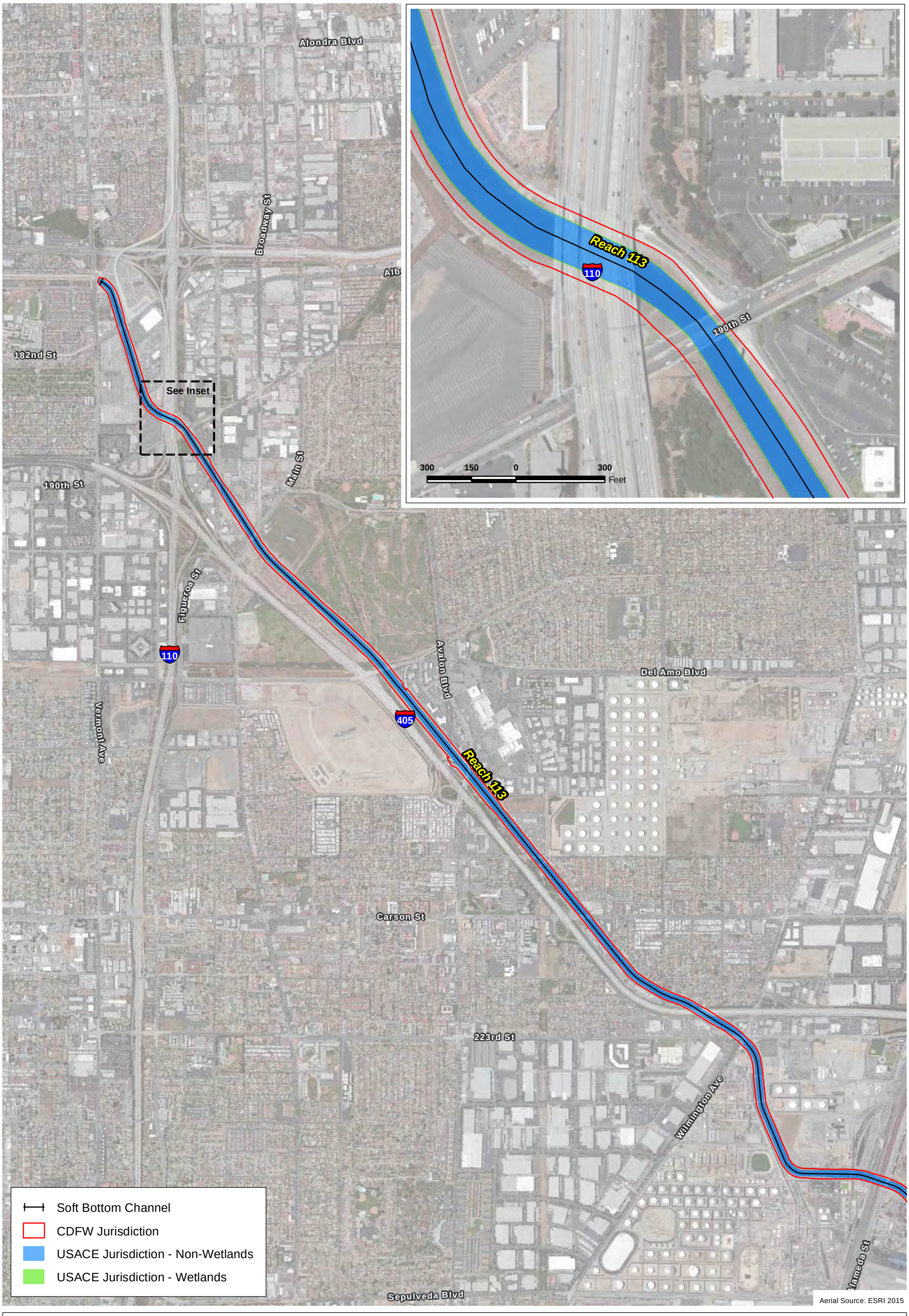

Jurisdictional Delineation – Reach 113 (Upstream Half)

Exhibit 4b

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

N W E S

2,000 1,000 0 2,000 Feet

BonTerra PSOMAS

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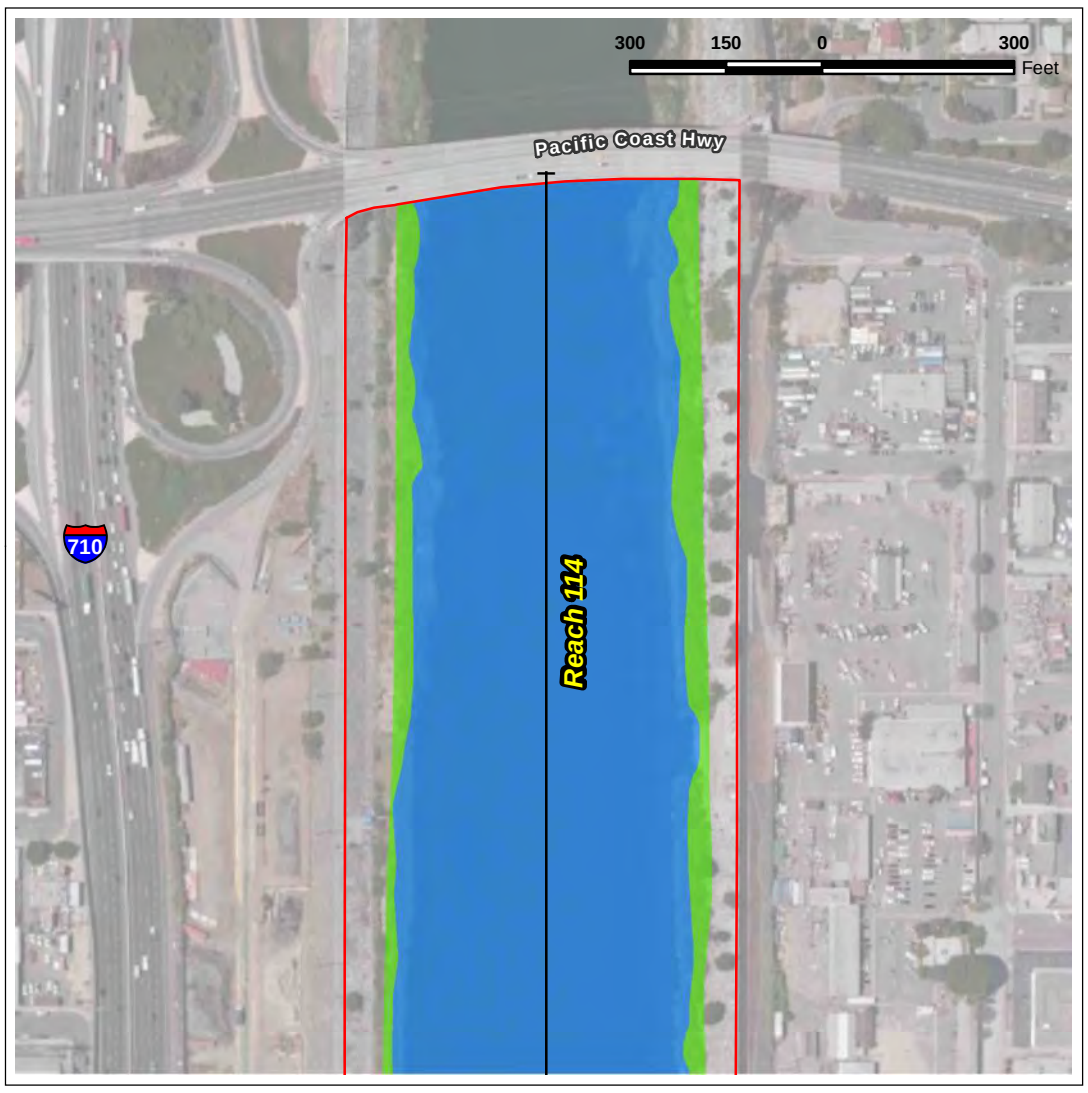

Jurisdictional Delineation – Reach 113 (Downstream Half) and Reach 114

Exhibit 4c

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

N W E S

2,000 1,000 0 2,000 Feet

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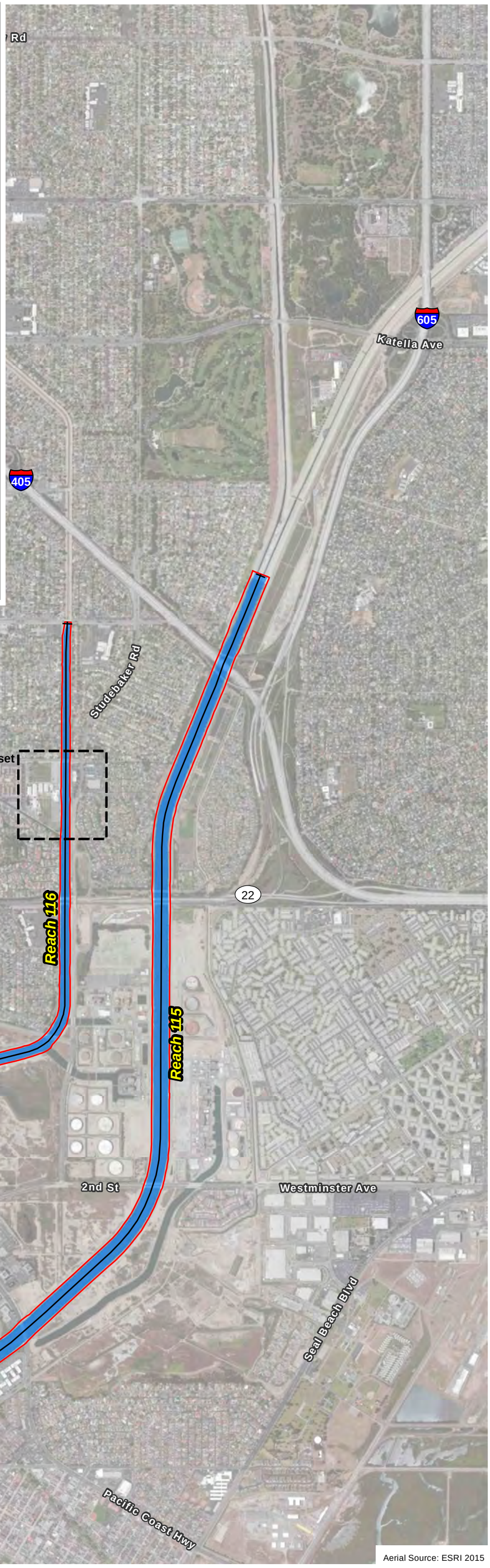

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Jurisdictional Delineation – Reaches 115 and 116

Exhibit 4d

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

N W E S

2,000 1,000 0 2,000 Feet

BonTerra PSOMAS

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TABLE 5
SUMMARY OF EXISTING JURISDICTIONAL RESOURCES

SBC Reach No.	Existing Jurisdictional Features (acres)			
	USACE/RWQCB			CDFW Jurisdictional Limits
	Non-wetland "waters of the U.S."	Wetlands	Total	
112	78.5	1.0	79.5	100.9
113	147.9	2.0	149.9	208.3
114	97.3	3.1	100.4	117.6
115	114.9	0.0	114.9	141.3
116	49.1	0.0	49.1	57.0
117	1.6	0.0	1.6	2.3
Total	**489.3**	**6.1**	**495.4**	**627.4**

SBC: Soft-Bottom Channel; USACE: U.S. Army Corps of Engineers; RWQCB: Regional Water Quality Control Board; CDFW: California Department of Fish and Wildlife.

4.2 REGIONAL WATER QUALITY CONTROL BOARD DETERMINATION

The RWQCB jurisdictional boundaries are defined as those determined for the USACE under "waters of the U.S.". However, the RWQCB takes jurisdiction over both connected and isolated waters. Isolated features (those that do not have a direct connection to a TNW or do not meet the "significant nexus" threshold) are under the jurisdiction of the RWQCB, but not the USACE.

For this analysis, waters under the jurisdiction of the RWQCB are equal to that of the USACE. No isolated waters exist on the project sites.

4.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE DETERMINATION

The CDFW jurisdiction extends from the top of the bank to the top of the bank, except where there is adjacent riparian vegetation. CDFW jurisdictional areas extend to the outer canopy of adjacent native riparian habitat. Reaches 112 through 117 all have well-defined banks, engineered at a 1:1 or 2:1 slope. The limits of CDFW jurisdiction therefore extend to the top of the various side-levees.

In all, a total of 627.4 acres of CDFW jurisdictional areas occur within the project boundaries (Table 5; Exhibits 4a–4d).

5.0 IMPACTS TO JURISDICTIONAL FEATURES

5.1 U.S. ARMY CORPS OF ENGINEERS JURISDICTION

5.1.1 Non-Wetland "Waters of the U.S."

Impacts to jurisdictional waters will consist of an initial effort to remove vegetation and perform repairs to flood control facilities. These activities will impact a total of 36.4 acres of non-wetland "waters of the U.S." (Exhibits 5a−5d). These impacts are summarized in Table 6. All impacts to USACE jurisdictional waters should be considered to be temporary.

After the initial effort to remove vegetation, future LACFCD activities (vegetation and sediment removal) would also be considered temporary impacts.

TABLE 6
SUMMARY OF IMPACTS TO JURISDICTIONAL RESOURCES

SBC Reach No.	Impacts to Jurisdictional Features (acres)			
	USACE/RWQCB			CDFW Jurisdictional Limits
	Non-wetland "waters of the U.S."	Wetlands	Total	
112	5.3	0.9	6.2	11.3
113	15.2	1.1	16.3	18.8
114	2.5	2.6	5.1	6.1
115	8.2	0.0	8.2	12.9
116	3.6	0.0	3.6	4.5
117	0.5	0.0	0.5	0.5
Total	**35.3**	**4.6**	**39.9**	**54.1**

SBC: Soft-Bottom Channel; USACE: U.S. Army Corps of Engineers; RWQCB: Regional Water Quality Control Board; CDFW: California Department of Fish and Wildlife.

5.1.2 Wetland "Waters of the U.S."

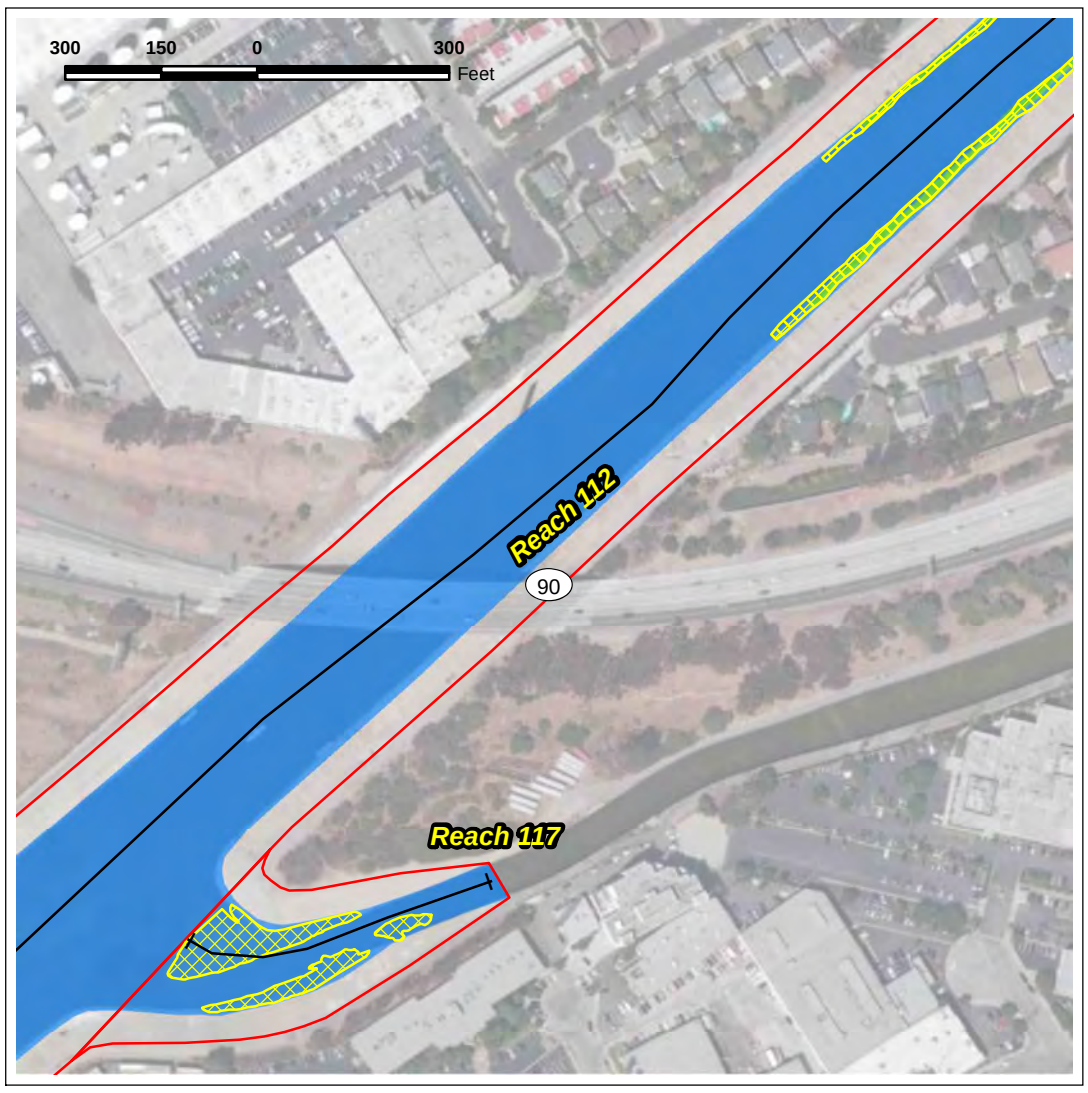
Impacts to wetlands from the above-described vegetation removal and maintenance activities will total 4.6 acres as summarized in Table 6. Because these activities will result in the permanent removal of vegetation in these locations, impacts to wetland features are considered permanent.

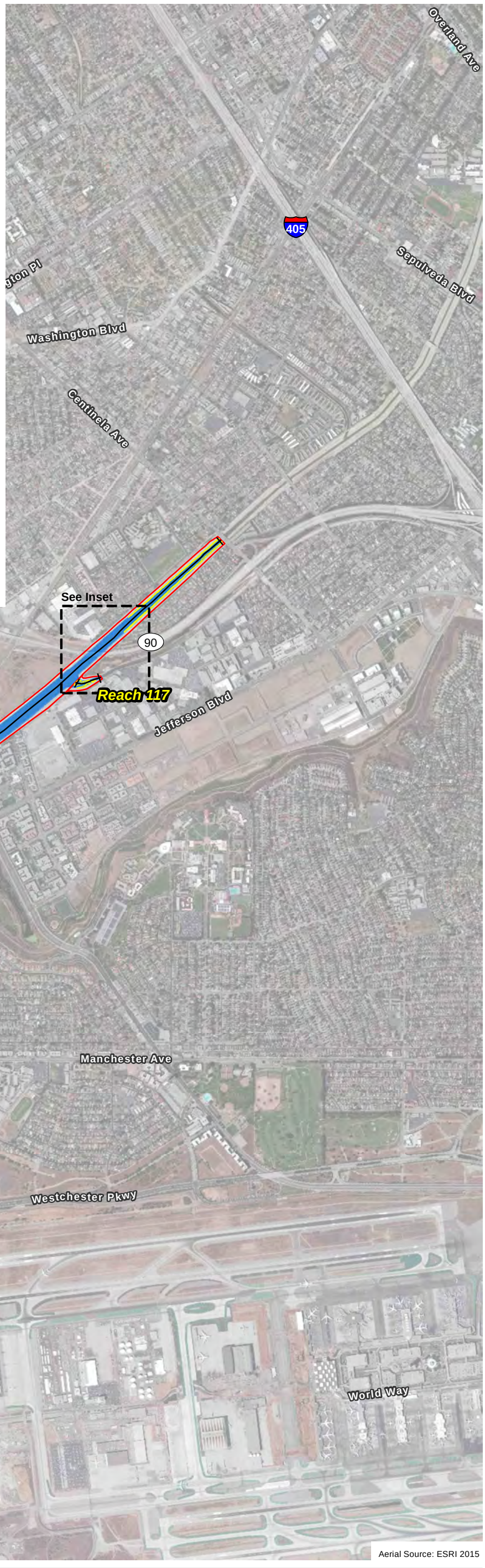
5.2 REGIONAL WATER QUALITY CONTROL BOARD

Because no isolated waters occur in the project boundaries, resources under the jurisdiction of the RWQCB equal those of the USACE. As a result, impacts to RWQCB "waters of the State" are the same as impacts to USACE waters. This consists of 36.4 acres of non-wetland "waters of the State" and 3.5 acres of wetlands as summarized above in Table 6.

5.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Impacts to CDFW jurisdictional resources total 54.1 acres as summarized in Table 6. Areas identified as wetlands in Table 6 are the only locations where native vegetation will be removed. Therefore permanent impacts to CDFW jurisdiction are 4.6 acres as this coincides with impacts to wetlands. Temporary impacts to CDFW jurisdiction (removal of non-native vegetation and removal of sediment totals 49.5 acres.





Soft Bottom Channel
Clearing Areas
CDFW Jurisdiction
USACE Jurisdiction - Non-Wetlands
USACE Jurisdiction - Wetlands

Aerial Source: ESRI 2015

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Jurisdictional Impacts – Reaches 112 and 117

Exhibit 5a

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

N W E S

2,000 1,000 0 2,000
Feet

BonTerra PSOMAS

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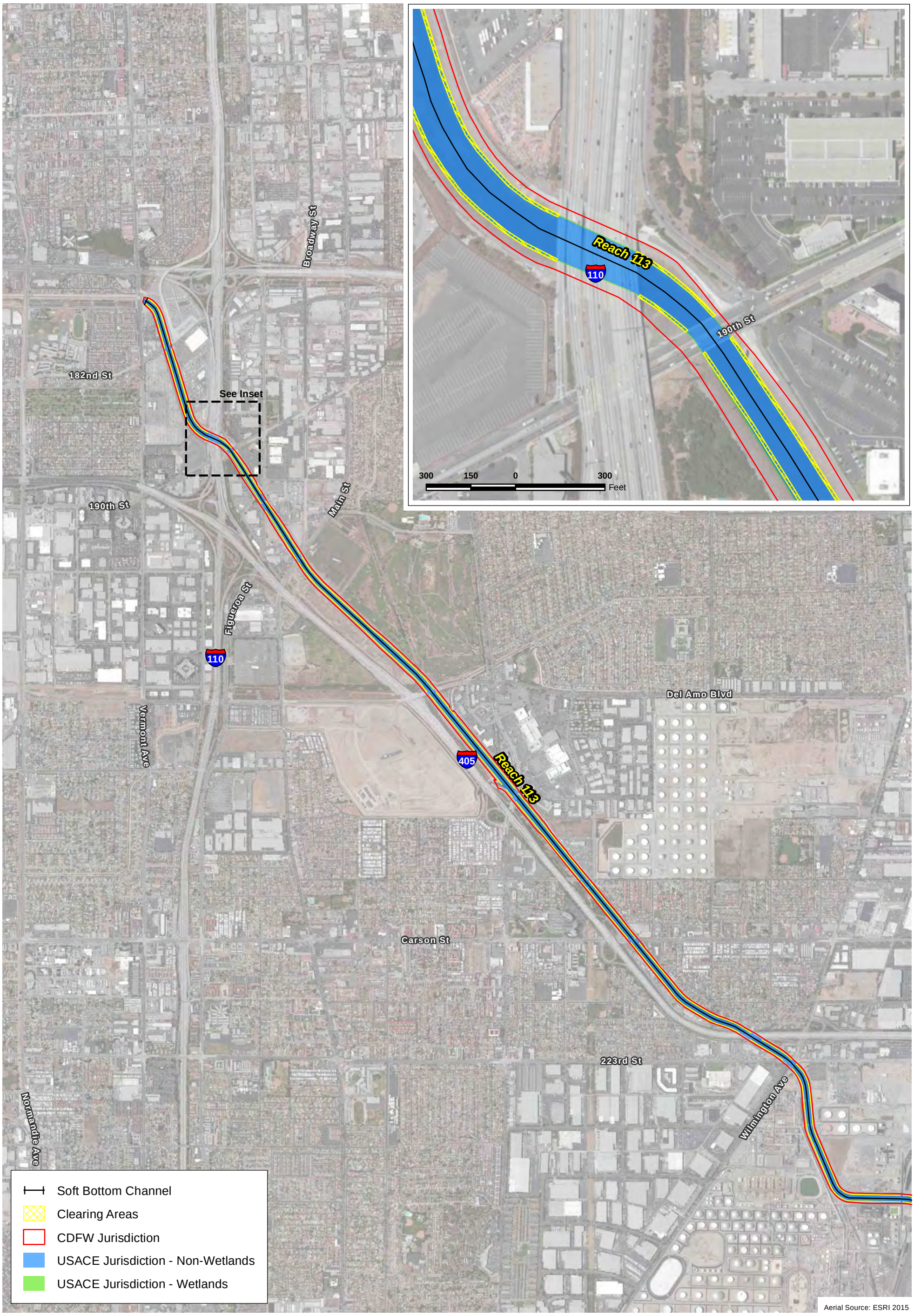

Jurisdictional Impacts – Reach 113 (Upstream Half)

Exhibit 5b

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

N W E S

2,000 1,000 0 2,000 Feet

BonTerra PSOMAS

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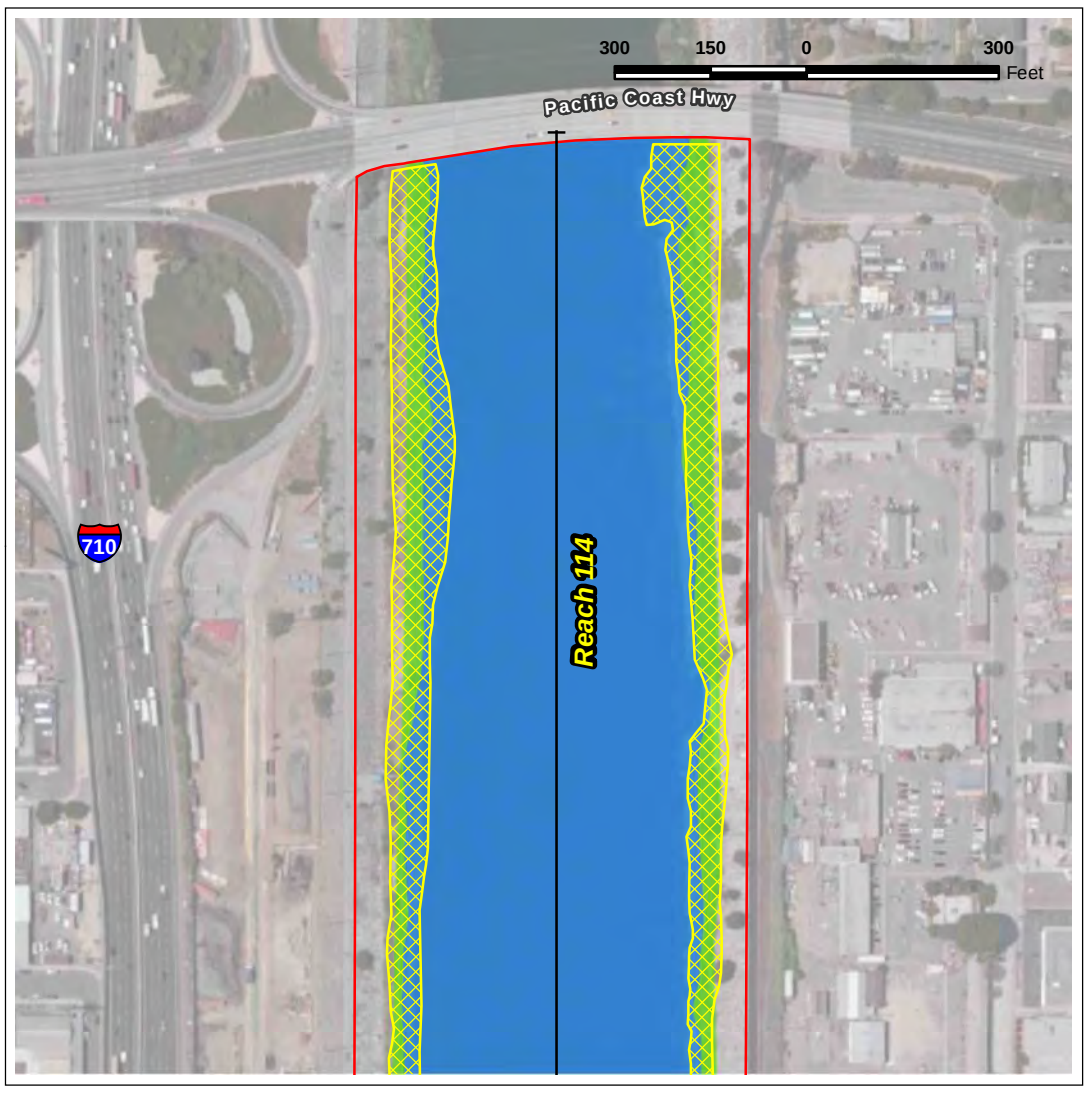

Carson St
223rd St
Wilmington Ave
Reach 113
Sepulveda Blvd
Willow St
Long Beach Blvd
710
Magnolia Ave
Pacific Coast Hwy
See Inset
Henry Ford Ave
I St
Anaheim St
9th St
10th St
47
Alameda St
Reach 114
Pacific Ave
7th St
6th St
3rd St
Broadway
Pico Ave
Ocean Blvd
Chestnut Pl
Shoreline Dr

Soft Bottom Channel
Clearing Areas
CDFW Jurisdiction
USACE Jurisdiction - Non-Wetlands
USACE Jurisdiction - Wetlands

Aerial Source: ESRI 2015

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Jurisdictional Impacts – Reach 113 (Downstream Half) and Reach 114

Exhibit 5c

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

N W E S

2,000 1,000 0 2,000 Feet

Bonterra PSOMAS

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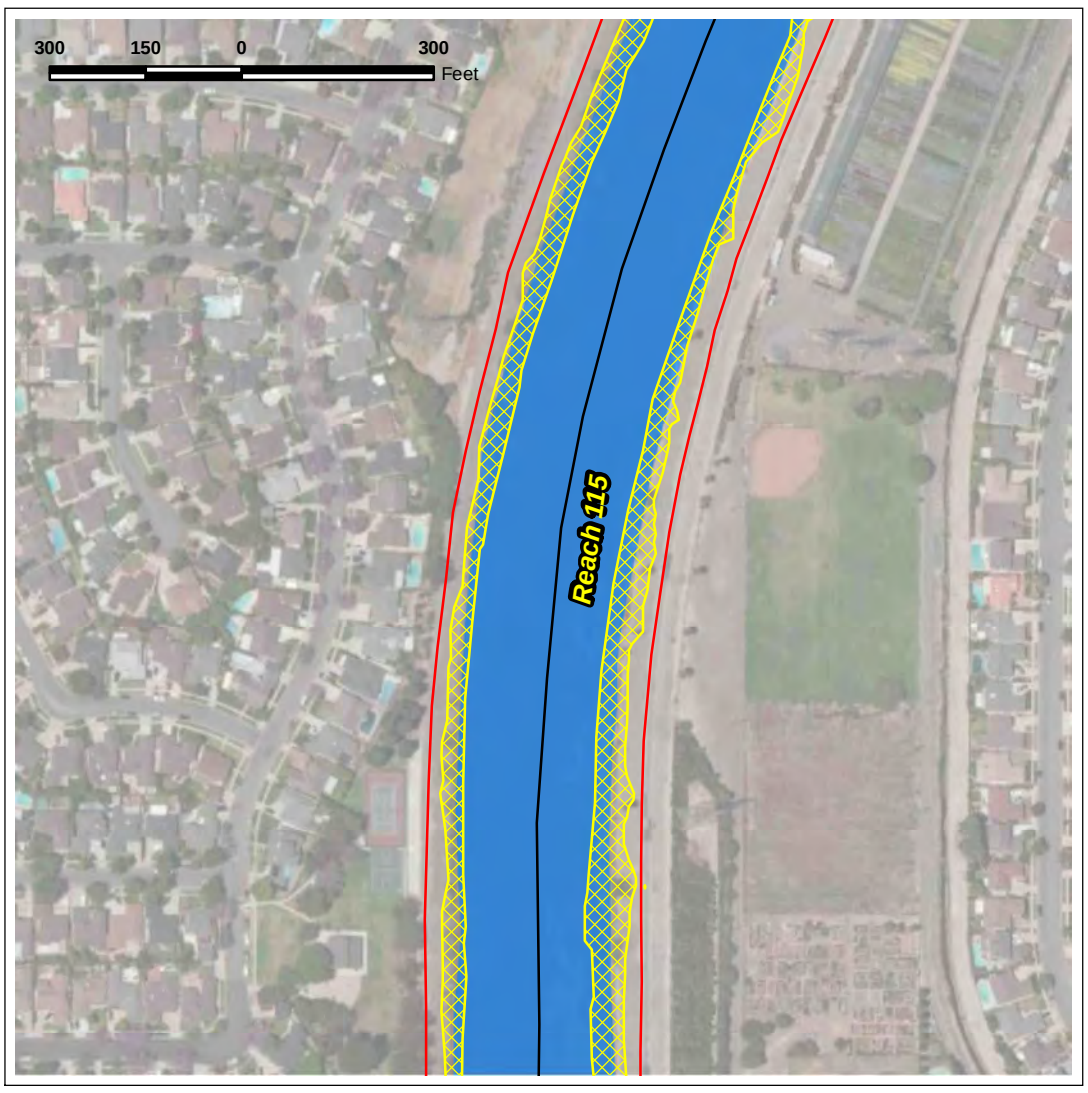



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Jurisdictional Impacts – Reaches 115 and 116

Exhibit 5d

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

N W E S

2,000 1,000 0 2,000 Feet

BonTerra PSOMAS

(Rev: 3-31-2015 CJS) R:\Projects\CoLADPW (DPW)\J275\Graphics\JD\Ex5a_JD_Impacts_CDFW_USACE_ D_20150309.pdf

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APPENDIX A

WETLAND DATA FORM

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Soft Bottom Channel Reach 117 City/County: Los Angeles/Los Angeles Sampling Date: Feb 23, 2015

Applicant/Owner: Los Angeles County Flood Control District State: CA Sampling Point: 1

Investigator(s): David Hughes, Katherine Gallagher Section, Township, Range: T2S, R15W, Section 23

Landform (hillslope, terrace, etc.): Flood control channel Local relief (concave, convex, none): _____ Slope (%): 2

Subregion (LRR): Mediterranean California (LRR C) Lat: 33.979129 Long: -118.424261 Datum: NAD 83

Soil Map Unit Name: _____ NWI classification: PEMR

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Soil pit is located in accumulated sediment near the downstream end of Reach 117, near the confluence with Reach 112.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Paspalum vaginatum	95	Y	FACW
2. Chrysanthemum sp.	5	N	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species 95	x 2 =	190
FAC species	x 3 =	
FACU species	x 4 =	
UPL species 5	x 5 =	25
Column Totals: 100 (A)		215 (B)

Prevalence Index = B/A = 2.15

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10 YR 2/1	100					silty clay	accumulated sediment
12-24	10 YR 3/3	100					clay sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ____ Depth (inches): ____

Water Table Present? Yes ____ No ✓ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ✓ No ____ Depth (inches): 1

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:

Reach is at upper limit of tidal influence. Adjacent channel has perennial flows.

ATTACHMENT B

SITE PHOTOGRAPHS

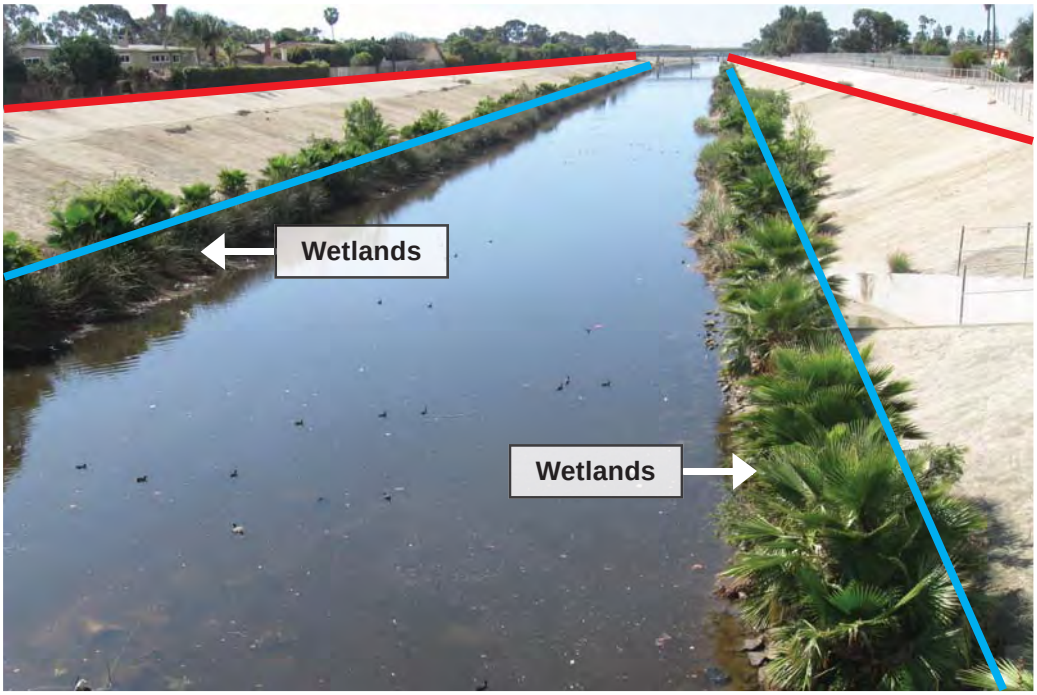

Photo 1 - Reach 112. Upstream end facing downstream from Centinela Avenue. Note co-dominant southern bulrush and fan palms constituting wetland area. The red line above indicates the CDFW jurisdictional boundary, while the blue illustrates the USACE jurisdictional boundary. Please note that jurisdictional boundaries are provided to generally illustrate their limits in profile view.



Photo 2 - Reach 112. Near confluence with Reach 117 facing upstream.

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Site Photographs

Exhibit B-1

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

BonTerra PSOMAS

(03/24/15 KFD) R:\Projects\CoLADPW (DPW)\J275\Graphics\JD\ExB-1_8x11_photosA_20150324.pdf



Photo 3 - Reach 112. Near confluence with Reach 117 facing downstream. The blue line above indicates the USACE jurisdictional boundary.



Photo 4 - Reach 112. Facing downstream from Lincoln Boulevard.

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Site Photographs

Exhibit B-2

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

BonTerra PSOMAS

(03/24/15 KFD) R:\Projects\CoLADPW (DPW)\J275\Graphics\JD\ExB-2_8x11_photosB_20150324.pdf



Photo 5 - Reach 112. Facing downstream from Culver Boulevard. The red line above indicates the CDFW jurisdictional boundary, while the blue illustrates the USACE jurisdictional boundary. Please note that jurisdictional boundaries are provided to generally illustrate their limits in profile view.



Photo 6 - Reach 112. Downstream end facing upstream from Pacific Avenue.



Photo 7 - Reach 113. Upstream end of reach facing downstream from Vermont Avenue.

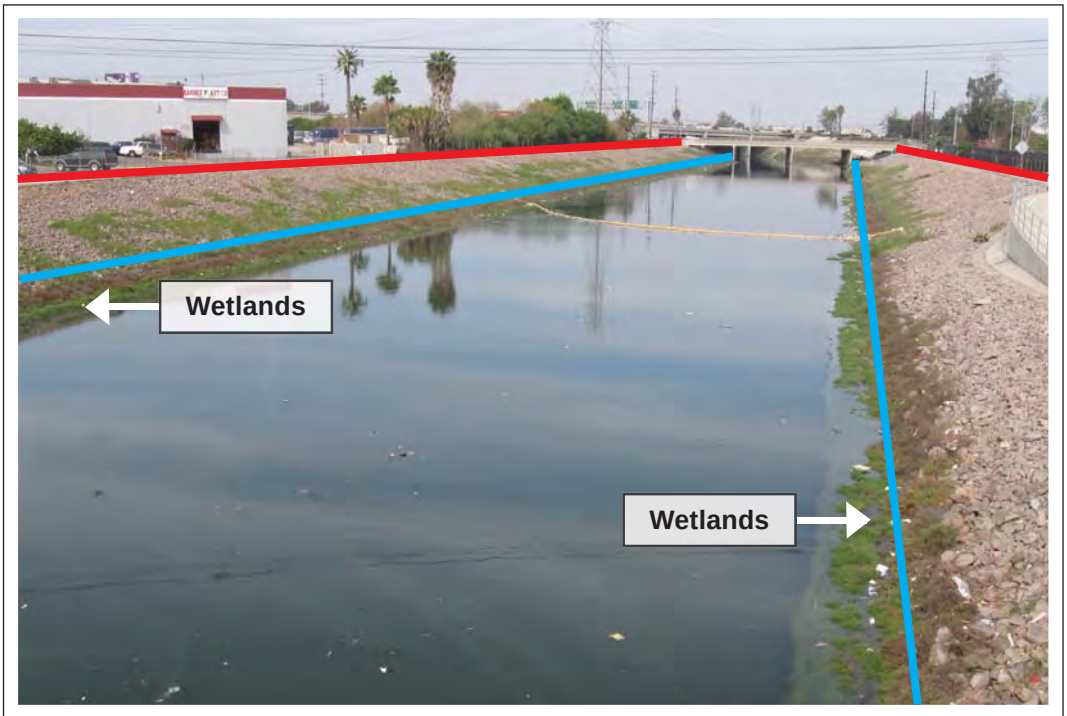

Photo 8 - Reach 113. Facing upstream from Figueroa Street. The red line above indicates the CDFW jurisdictional boundary, while the blue illustrates the USACE jurisdictional boundary. Please note that jurisdictional boundaries are provided to generally illustrate their limits in profile view.

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Photo 9 - Reach 113. Facing downstream from Figueroa Street.



Photo 10 - Reach 113. Facing upstream from Avalon Boulevard.

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Site Photographs

Exhibit B-5

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

BonTerra PSOMAS



Photo 11 - Reach 113. Facing upstream from Carson Street.



Photo 12 - Reach 113. Facing downstream from Carson Street.

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Site Photographs

Exhibit B-6

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

BonTerra PSOMAS



Photo 13 - Reach 113. Facing downstream from Alameda Boulevard.



Photo 14 - Reach 113. Facing upstream from Sepulveda Boulevard.

D:\Projects\COLADPWJ275\Graphics\JD\Ex_8x11_photosG_20150311.ai

Site Photographs

Exhibit B-7

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

BonTerra PSOMAS



Photo 15 - Reach 113. Facing downstream from Sepulveda Boulevard.



Photo 16 - Reach 113. Facing downstream from Pacific Coast Highway.

D:\Projects\COLADPW\J275\Graphics\JD\Ex_8x11_photosH_20150311.ai

Site Photographs

Exhibit B-8

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

BonTerra PSOMAS

(03/17/15 KFD) R:\Projects\CoLADPW (DPW)\J275\Graphics\JD\ExB-8_8x11_photosH_20150309.pdf

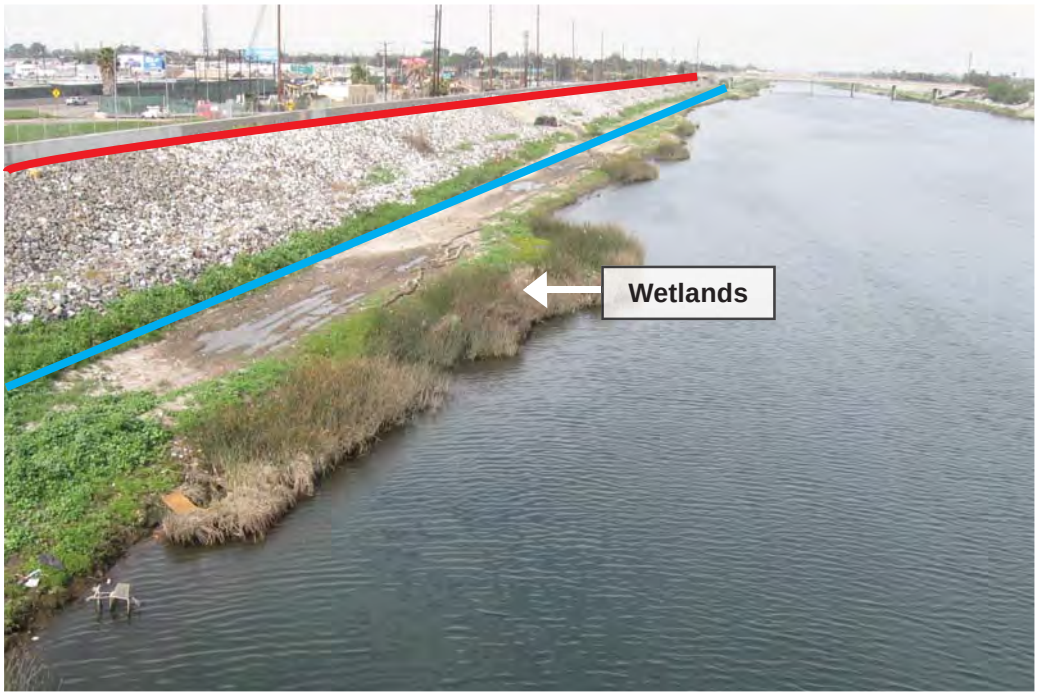

Photo 17 - Reach 114. Right bank of reach facing upstream from Anaheim Street. The red line above indicates the CDFW jurisdictional boundary, while the blue illustrates the USACE jurisdictional boundary. Please note that jurisdictional boundaries are provided to generally illustrate their limits in profile view.

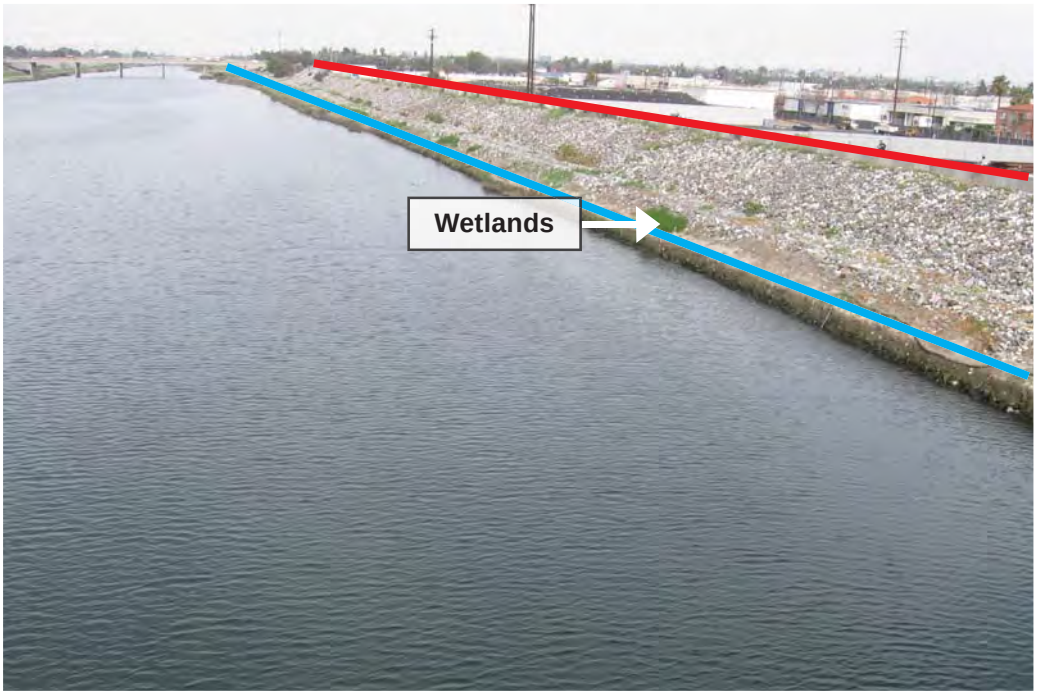

Photo 18 - Reach 114. Left bank of reach facing upstream from Anaheim Street. The red line above indicates the CDFW jurisdictional boundary, while the blue illustrates the USACE jurisdictional boundary. Please note that jurisdictional boundaries are provided to generally illustrate their limits in profile view.

D:\Projects\COLADPW\J275\Graphics\JD\Ex_8x11_photosI_20150311.ai

Site Photographs

Exhibit B-9

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

BonTerra PSOMAS

(03/24/15 KFD) R:\Projects\CoLADPW (DPW)\J275\Graphics\JD\ExB-9_8x11_photosI_20150324.pdf



Photo 19 - Reach 114. Facing downstream from Anaheim Street.



Photo 20 - Reach 114. Facing downstream from Anaheim Street.

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Photo 21 - Reach 115. Upstream end of reach transitioning from hard to soft bottom.



Photo 22 - Reach 115. Facing upstream from College Park Drive. The red line above indicates the CDFW jurisdictional boundary, while the blue illustrates the USACE jurisdictional boundary.

D:\Projects\COLADPWJ275\Graphics\JD\Ex_8x11_photosK_20150311.ai

Site Photographs

Exhibit B-11

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

BonTerra PSOMAS

(03/30/15 KFD) R:\Projects\CoLADPW (DPW)\J275\Graphics\JD\ExB-11_8x11_photosK_20150330.pdf



Photo 23 - Reach 115. Facing upstream from Westminster Avenue.



Photo 24 - Reach 115. Facing downstream from Westminster Avenue.

D:\Projects\COLADPWJ275\Graphics\JD\Ex_8x11_photosL_20150311.ai

Site Photographs

Exhibit B-12

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

BonTerra PSOMAS

(03/17/15 KFD) R:\Projects\CoLADPW (DPW)\J275\Graphics\JD\ExB-12_8x11_photosL_20150309.pdf



Photo 25 - Reach 115. Facing upstream from Pacific Coast Highway.



Photo 25 - Reach 115. Downstream end facing upstream from Marina Drive. The red line above indicates the CDFW jurisdictional boundary, while the blue illustrates the USACE jurisdictional boundary.

D:\Projects\COLADPWJ275\Graphics\JD\Ex_8x11_photosM_20150311.ai



Photo 27 - Reach 116. Upstream end facing downstream from Atherton Street.



Photo 28 - Reach 116. Facing upstream from Anaheim Road. The red line above indicates the CDFW jurisdictional boundary, while the blue illustrates the USACE jurisdictional boundary.

D:\Projects\COLADPW\J275\Graphics\JD\Ex_8x11_photosN_20150311.ai

Site Photographs

Exhibit B-14

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

BonTerra PSOMAS

(03/30/15 KFD) R:\Projects\CoLADPW (DPW)\J275\Graphics\JD\ExB-14_8x11_photosN_20150330.pdf



Photo 29 - Reach 116. Facing downstream from Anaheim Road.



Photo 30 - Reach 116. Facing upstream from Loynes Drive.

D:\Projects\COLADPW\J275\Graphics\JD\Ex_8x11_photosO_20150311.ai

Site Photographs

Exhibit B-15

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 112-117

BonTerra PSOMAS

(03/17/15 KFD) R:\Projects\CoLADPW (DPW)\J275\Graphics\JD\ExB-15_8x11_photosO_20150309.pdf



Photo 31 - Reach 116. Facing downstream from Loynes Drive.



Photo 32 - Reach 117. Downstream end facing upstream. The red line above indicates the CDFW jurisdictional boundary, while the blue illustrates the USACE jurisdictional boundary.

ATTACHMENT C

BIOLOGICAL TECHNICAL REPORT FOR THE DOMINGUEZ SOFT BOTTOM CHANNEL REACH MAINTENANCE PROJECT

BIOLOGICAL TECHNICAL REPORT FOR THE DOMINGUEZ SOFT BOTTOM CHANNEL REACH MAINTENANCE PROJECT LOS ANGELES COUNTY, CALIFORNIA

Prepared for:

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
Flood Maintenance Division
900 South Fremont Avenue
Alhambra, California 91803

Prepared by:

CHAMBERS GROUP, INC.
5 Hutton Centre Drive, Suite 750
Santa Ana, California 92707
(949) 261-5414

May 2014

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SECTION 1.0 – INTRODUCTION

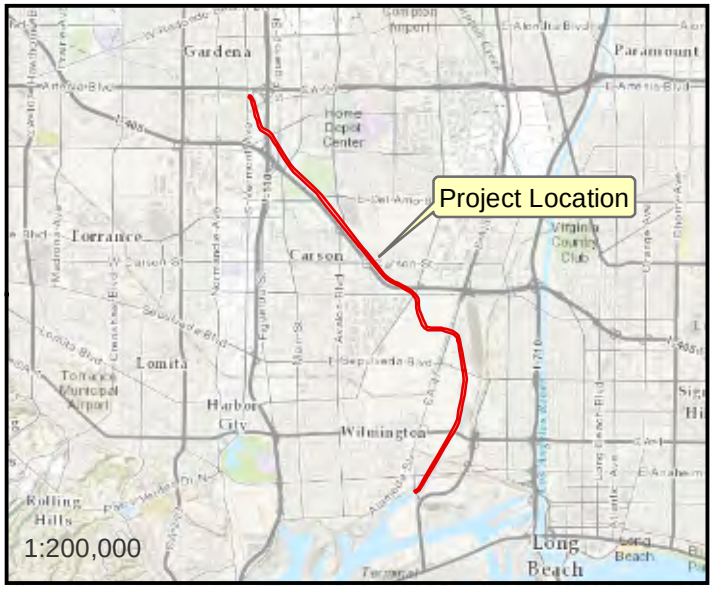
This Biological Technical Report has been prepared for the County of Los Angeles, Department of Public Works (LACDPW) Flood Maintenance Division (FMD) to support the Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements (WDR) for the proposed actions relating to the Dominguez Soft Bottom Channel Reach Maintenance Project (Project). Information contained in this document is in accordance with accepted scientific and technical standards consistent with the requirements of United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW).

Chambers Group, Inc. (Chambers Group) was retained by LACDPW to conduct a literature review and reconnaissance-level survey for the proposed Project. During the survey, biologists identified vegetation communities, determined the potential for the occurrence of sensitive species and habitats that could support sensitive wildlife species on site, and recorded all plants and animals observed or detected within the Project boundary.

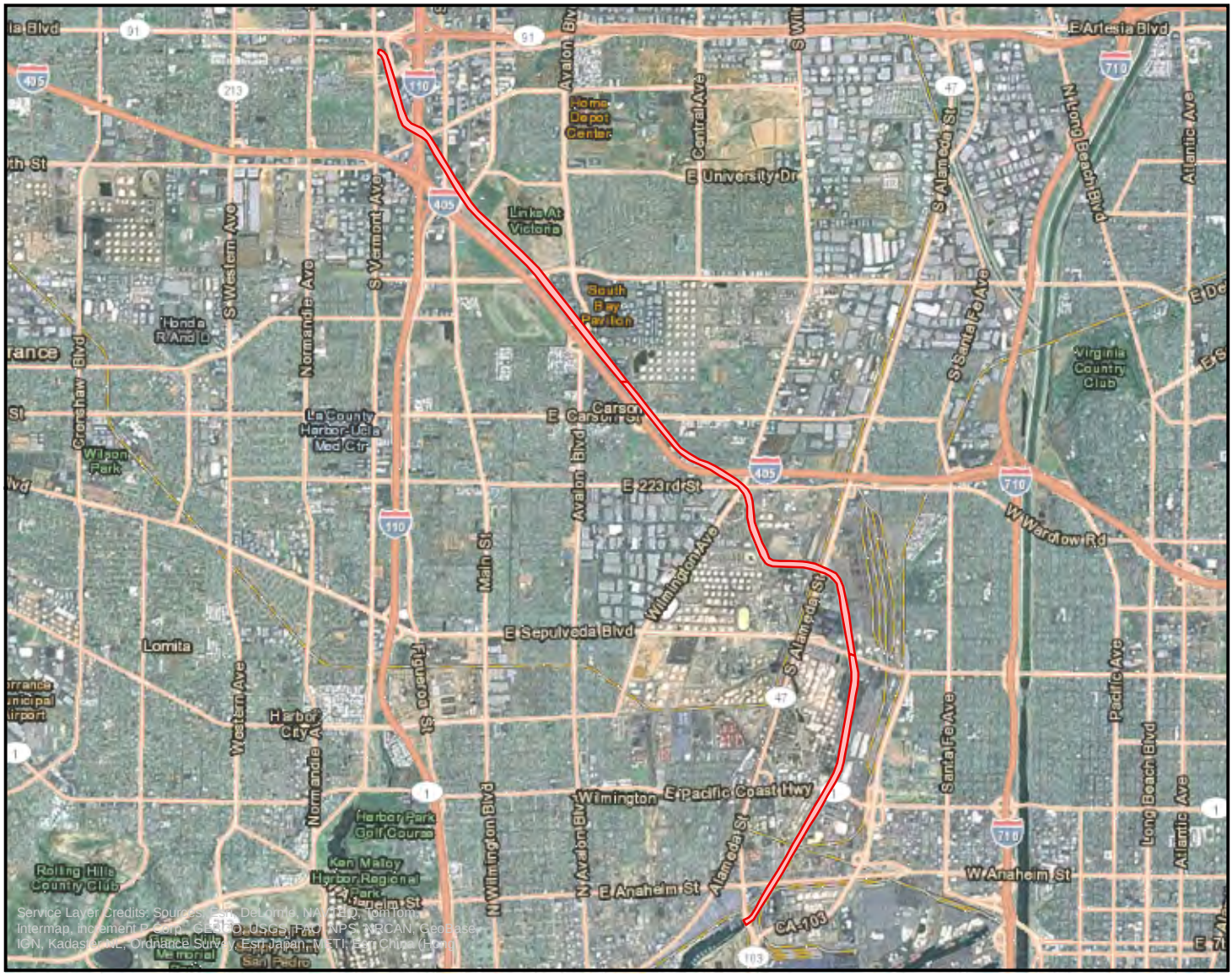
1.1 PROJECT LOCATION

Dominguez Soft Bottom Channel (SBC) is located in the County of Los Angeles near the intersection of West Artesia Boulevard (Blvd.) and South Vermont Avenue (Ave.) in the City of Gardena. Dominguez SBC flows southeast into the Los Angeles Harbor, which is located just south of the intersection of Anaheim Street (St.) and North Henry Ford Ave. in the City of Wilmington (Figure 1). The Project site runs through several cities located throughout central Los Angeles County, beginning north of Interstate 405 (I-405), flowing parallel to I-405, and opening into the Los Angeles Harbor south of I-405. Dominguez SBC is located in the United States Geological Survey (USGS) *Torrance* and *Long Beach* 7.5-minute topographic quadrangles. Elevation in the survey area averages 7 feet above mean sea level (amsl).

The Project site is approximately 8.21 river miles total in length (Figure 1). The survey area is located in a highly developed area surrounded by private residences, local businesses, industrial buildings, and other open spaces. Habitat in the survey area is composed primarily of developed, ruderal, and disturbed coastal salt marsh vegetation communities (Figure 2).







Legend

Project Location

N

0 0.5 1 2 Miles

Figure 1

Dominguez Soft Bottom Channel Project
Project Location and Vicinity Map

Name: 20705 BTR Dominguez Fig 1 Project Location.Mxd
Print Date: 3/31/2014, Author: msimmons

CHAMBERS GROUP

SECTION 2.0 – METHODS

2.1 LITERATURE REVIEW

Chambers Group biologists conducted a literature review of the survey area prior to performing the reconnaissance survey. The most recent records of the California Natural Diversity Database (CNDDB; managed by CDFW 2014) and the California Native Plant Society's Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California (CNPSEI 2014) were reviewed for the following four quadrangles: *Torrance, Long Beach, Inglewood,* and *San Pedro*, California, USGS 7.5-minute quadrangles. These databases contain records of reported occurrences of federally or state listed as endangered or threatened species, proposed endangered or threatened species, California Species of Special Concern (SSC), or otherwise sensitive species or habitats that may occur within or in the immediate vicinity of the Project site.

2.2 SOILS

Before the survey was conducted, soil maps for Los Angeles County were reviewed online (USDA 2014) to determine the types of soil found within the Project site. Soils were determined in accordance with categories set forth by the United States Department of Agriculture (USDA) Soil Conservation Service and by referencing the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2014).

2.3 JURISDICTIONAL WATERS

The limits of jurisdictional waters regulated by the United States Army Corps of Engineers (USACE), RWQCB, and CDFW were delineated for the proposed Project study area. Pursuant to Section 404 of the Clean Water Act, USACE regulates the discharge of dredged and/or fill material into waters of the United States. The State of California (State) regulates discharge of material into waters of the State pursuant to Section 401 of the Clean Water Act and the California Porter-Cologne Water Quality Control Act (California Water Code, Division 7, §13000 et seq.). Pursuant to Division 2, Chapter 6, Sections 1600-1602 of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake which supports fish or wildlife. The jurisdictional limits of waters were identified by a desktop-only survey through the United States Geological Survey (USGS) National Hydrography Dataset.

2.4 BIOLOGICAL RECONNAISSANCE-LEVEL FIELD SURVEY

Chambers Group biologists Heather Franklin and Jeremy Smith conducted the general reconnaissance survey to map vegetation communities and identify the potential for occurrence of sensitive plant and wildlife species and habitats that could support sensitive wildlife species on site. All plants and animals observed or detected on site were recorded. Photographs of the Project site were taken to document existing site conditions and are provided in Appendix A.

2.4.1 Vegetation

All plant species observed within the Project site were recorded. Vegetation communities within the Project site were identified, qualitatively described, and mapped onto an aerial photograph. Plant communities were determined in accordance with the categories set forth in Holland (1986), Gray and

Bramlet (1992), or Sawyer et al. (2009). Plant nomenclature follows that of Baldwin et al. (2012). A comprehensive list of the plant species observed during the survey is provided in Appendix B.

2.4.2 Wildlife

All wildlife and wildlife sign observed and detected, including tracks, scat, carcasses, burrows, excavations, and vocalizations, were recorded. Additional survey time was spent in those habitats most likely to be utilized by wildlife (undisturbed native habitat, wildlife trails, etc.), and in habitats with the potential to support state and/or federally listed or otherwise sensitive species. Notes were made on the general habitat types, species observed, and the conditions of the Project site. A comprehensive list of the wildlife species observed or detected during the survey is provided in Appendix C.

SECTION 3.0 – RESULTS

Chambers Group biologists conducted the reconnaissance-level field survey on foot throughout the Project site between the hours of 8:00 a.m. and 4:30 p.m. on March 14, 2014. Weather conditions during the survey included temperatures ranging from 57 to 70 degrees Fahrenheit with 30 percent cloud cover and no precipitation.

3.1 SOILS

Review of USDA Soil Conservation Service and referencing the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2014) determined that the Project site is located within the Los Angeles County Southeastern Area (CA696). Based on the results of the database search, no soil data exists for this area.

3.2 JURISDICTIONAL WATERS

The Dominguez SBC is located in the Lower Dominquez Channel Watershed, a blue-line stream containing riparian vegetation and flowing water. This section is subject to USACE, RWQCB, and CDFW jurisdiction. Although it may be required, a formal jurisdictional delineation was not prepared for this Project; however, potential impacts to waters of the United States and waters of the State may be calculated if the channel is the only potential water and by assuming the complete channel width as jurisdictional to USACE, RWQCB, and CDFW for waters.

3.3 VEGETATION COMMUNITIES

Three vegetation communities and a single patch of big saltbush (*Atriplex lentiformis*) were observed within the Project site. A Big Saltbush Patch is an area that is covered with a monoculture of the same species of *Atriplex lentiformus* shrubs. The vegetation communities observed were Disturbed Coastal Salt Marsh, Ruderal, and Developed. A map showing the vegetation communities observed within the Project site is provided as Figure 2. Representative site photographs were taken documenting the vegetation communities of the site (Appendix A). Biologists observed 40 plant species within the Project site during the time of the survey (Appendix B). A brief description of the three vegetation communities is provided in the following subsections.

3.3.1 Disturbed Coastal Salt Marsh

Coastal Salt Marsh is described as a highly productive, herbaceous, salt-tolerant species forming moderate to dense cover, growing up to 3 feet in height. Most species in this plant community are active in the summer and dormant in winter. Species common within this community may be frankenia (*Frankenia* sp.), seepweed (*Suaeda* sp.), and pickleweed (*Salicornia* sp.), growing along the upper, landward edges of marshes, with saltgrass (*Disticlis spicata*) growing closer to open water. This community occurs along sheltered inland margins of bays, lagoons, and estuaries (Holland 1986). Disturbed Coastal Salt Marsh patches typically have nonnative species cover greater than 25 percent.

Disturbed Coastal Salt Marsh is present in narrow, water's-edge patches throughout the length of the channel on both banks of the Project site throughout the reach. Plant species found within the Project site typical of this vegetation community include: alkali heath (*Frankenia salina*), pickleweed (*Salicornia*

pacifica), saltwort (*Batis maritma*), salt grass, and fleshy jaumea (*Jaumea carnosa*). The Project site includes approximately 4.62 acres total of Disturbed Coastal Salt Marsh.

3.3.2 Ruderal

Ruderal vegetation communities are dominated by nonnative, weedy species that are adapted to frequent disturbances.

Ruderal vegetation was found within the Project site growing in and along the top of the riprap that covers the banks of the channel. Species observed in this community within the Project site include bristly ox-tongue (*Helminthotheca echioides*), ripgut grass (*Bromus diandrus*), and flax-leaved horseweed (*Erigeron bonariensis*). The Project site includes approximately 2.89 acres total of Ruderal vegetation.

3.3.3 Developed

Developed areas are those that have been altered by humans and display man-made structures such as houses, paved roads, buildings, or parks.

Developed areas found within the Project site include the riprap channel banks and paved or graded roads. The Project site includes approximately 107.75 acres total of Developed area.



Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map

Legend

Dominguez Soft Bottom Channel

Vegetation Community

Open Water (OW)

Developed (DV)

N

0 100 200 400

Feet



Map 1

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre



Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map

Legend

Dominguez Soft Bottom Channel

Vegetation Community

- Open Water (OW)
- Ruderal (R)
- Developed (DV)

N

0 100 200 400

Feet



Map 2

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre



Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map

Legend

Dominguez Soft Bottom Channel

Vegetation Community

- Open Water (OW)
- Ruderal (R)
- Developed (DV)

N

0 100 200 400

Feet



Map 3

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre

Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map

Legend

Dominguez Soft Bottom Channel

Vegetation Community

Open Water (OW)

Ruderal (R)

Developed (DV)

N

0 100 200 400

Feet

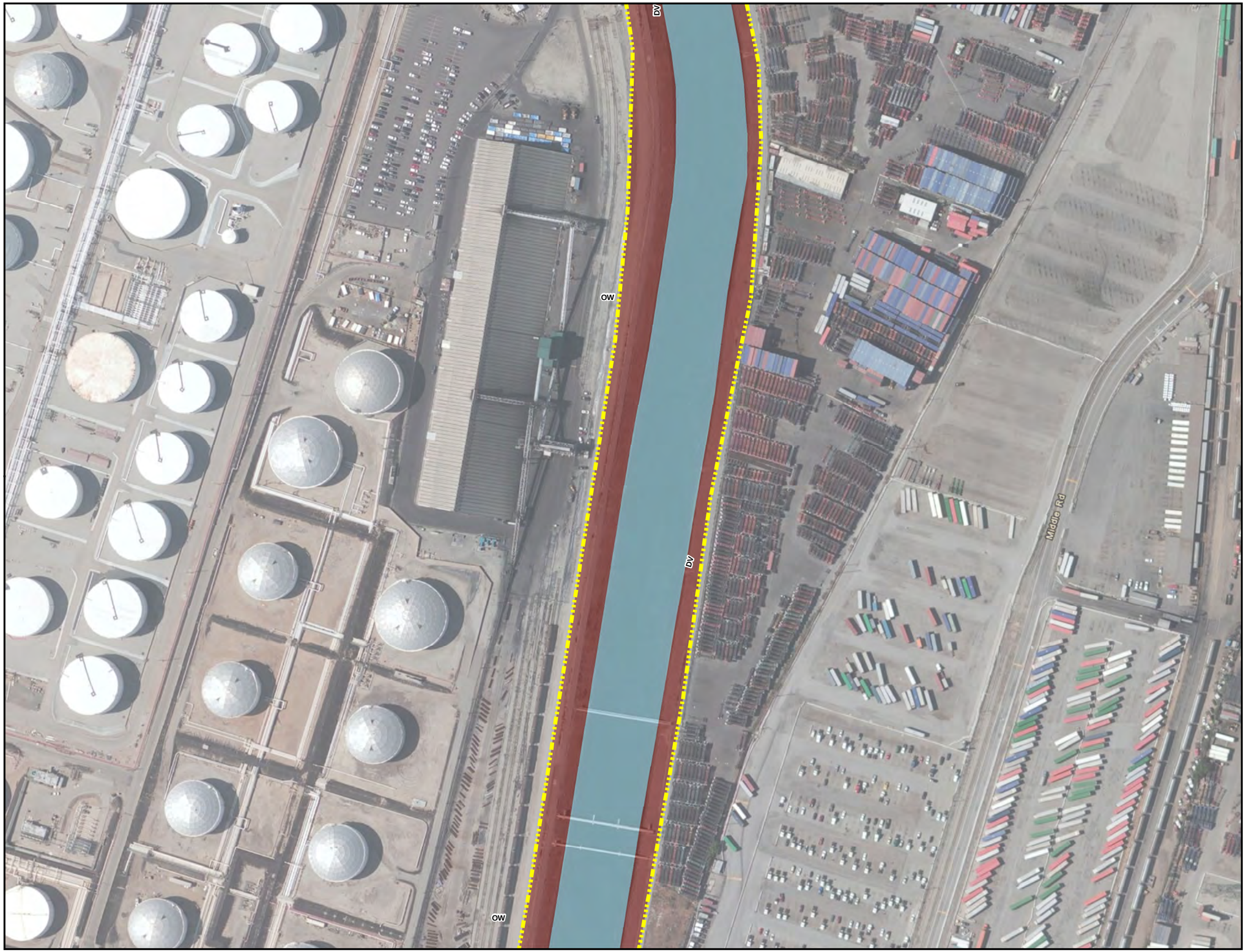


Map 4

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre

Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map



Legend

- Dominguez Soft Bottom Channel

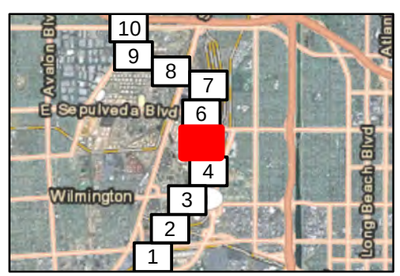
Vegetation Community

- Open Water (OW)
- Developed (DV)

N

0 100 200 400

Feet



Map 5

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre

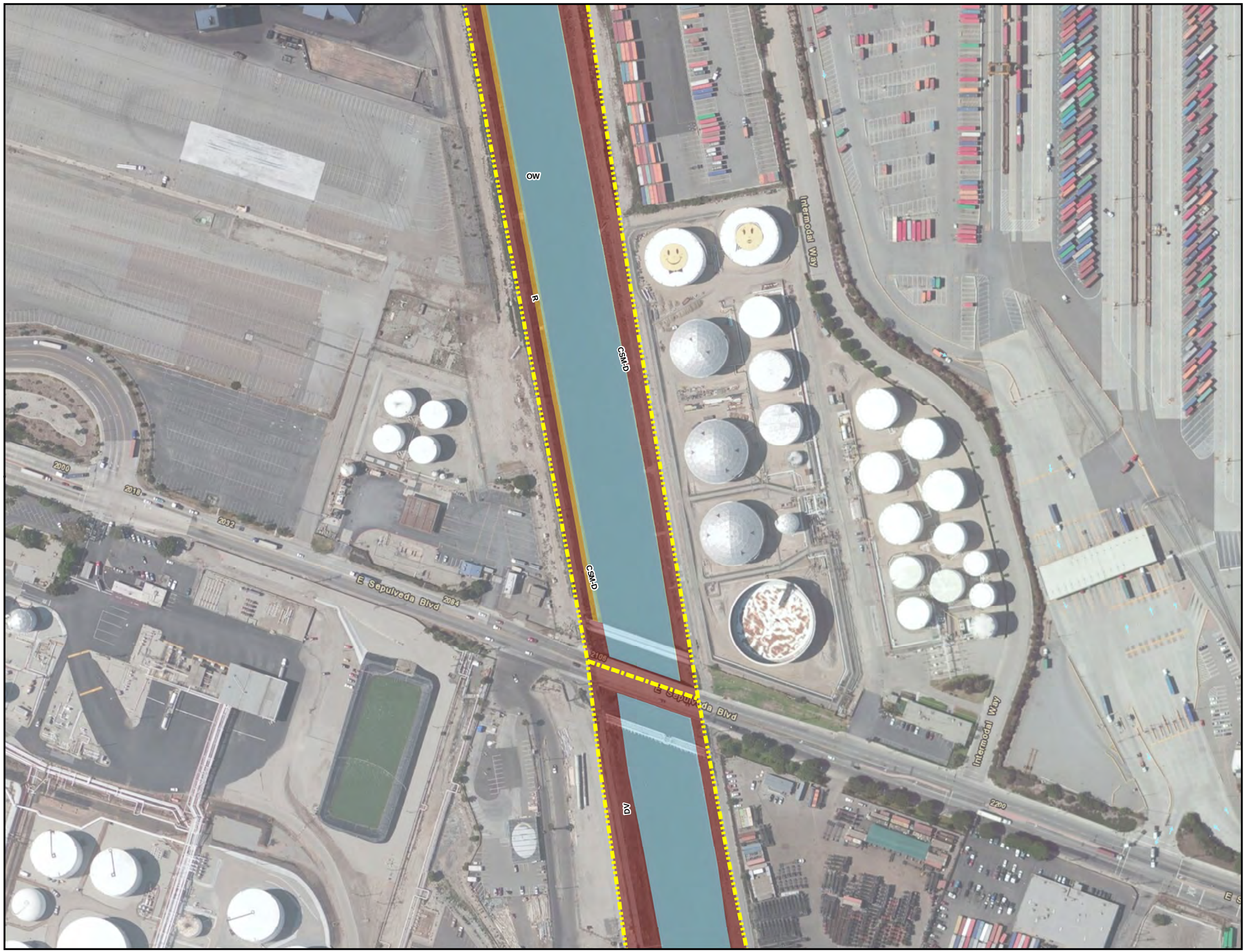


Figure 2
Dominguez Soft Bottom Channel Vegetation Communities Map

Legend

Dominguez Soft Bottom Channel

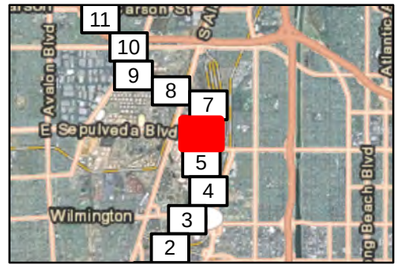
Vegetation Community

- Open Water (OW)
- Disturbed Coastal Salt Marsh (CSM-D)
- Ruderal (R)
- Developed (DV)

N

0 100 200 400

Feet



Map 6

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre

Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map



Legend

Dominguez Soft Bottom Channel

Vegetation Community

- Open Water (OW)
- Disturbed Coastal Salt Marsh (CSM-D)
- Ruderal (R)
- Developed (DV)

N

0 100 200 400

Feet



Map 7

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre

Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map

Legend

Dominguez Soft Bottom Channel

Vegetation Community

- Open Water (OW)
- Disturbed Coastal Salt Marsh (CSM-D)
- Ruderal (R)
- Developed (DV)

CSM-D
DV
OW
R
S Alameda St
47
2250

N

0 100 200 400
Feet



Map 8

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre



Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map

Legend

Dominguez Soft Bottom Channel

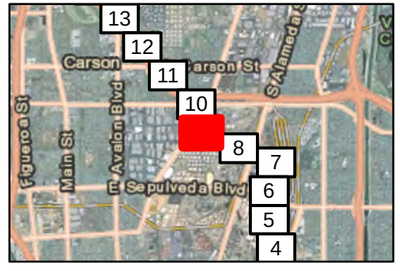
Vegetation Community

- Open Water (OW)
- Disturbed Coastal Salt Marsh (CSM-D)
- Developed (DV)

N

0 100 200 400

Feet



Map 9

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre

Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map

Legend

Dominguez Soft Bottom Channel

Vegetation Community

- Open Water (OW)
- Disturbed Coastal Salt Marsh (CSM-D)
- Developed (DV)

N

0 100 200 400
Feet



Map 10

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre



Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map

Legend

Dominguez Soft Bottom Channel

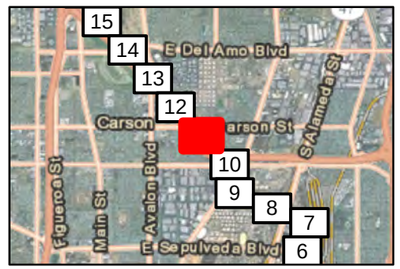
Vegetation Community

- Open Water (OW)
- Disturbed Coastal Salt Marsh (CSM-D)
- Developed (DV)

N

0 100 200 400

Feet



Map 11

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre

Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map

Legend

Dominguez Soft Bottom Channel

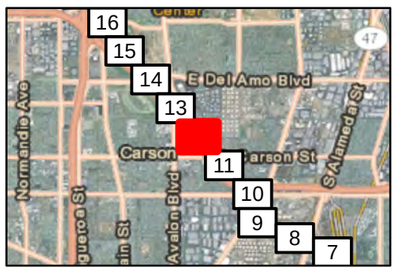
Vegetation Community

- Open Water (OW)
- Disturbed Coastal Salt Marsh (CSM-D)
- Developed (DV)

N

0 100 200 400

Feet



Map 12

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre

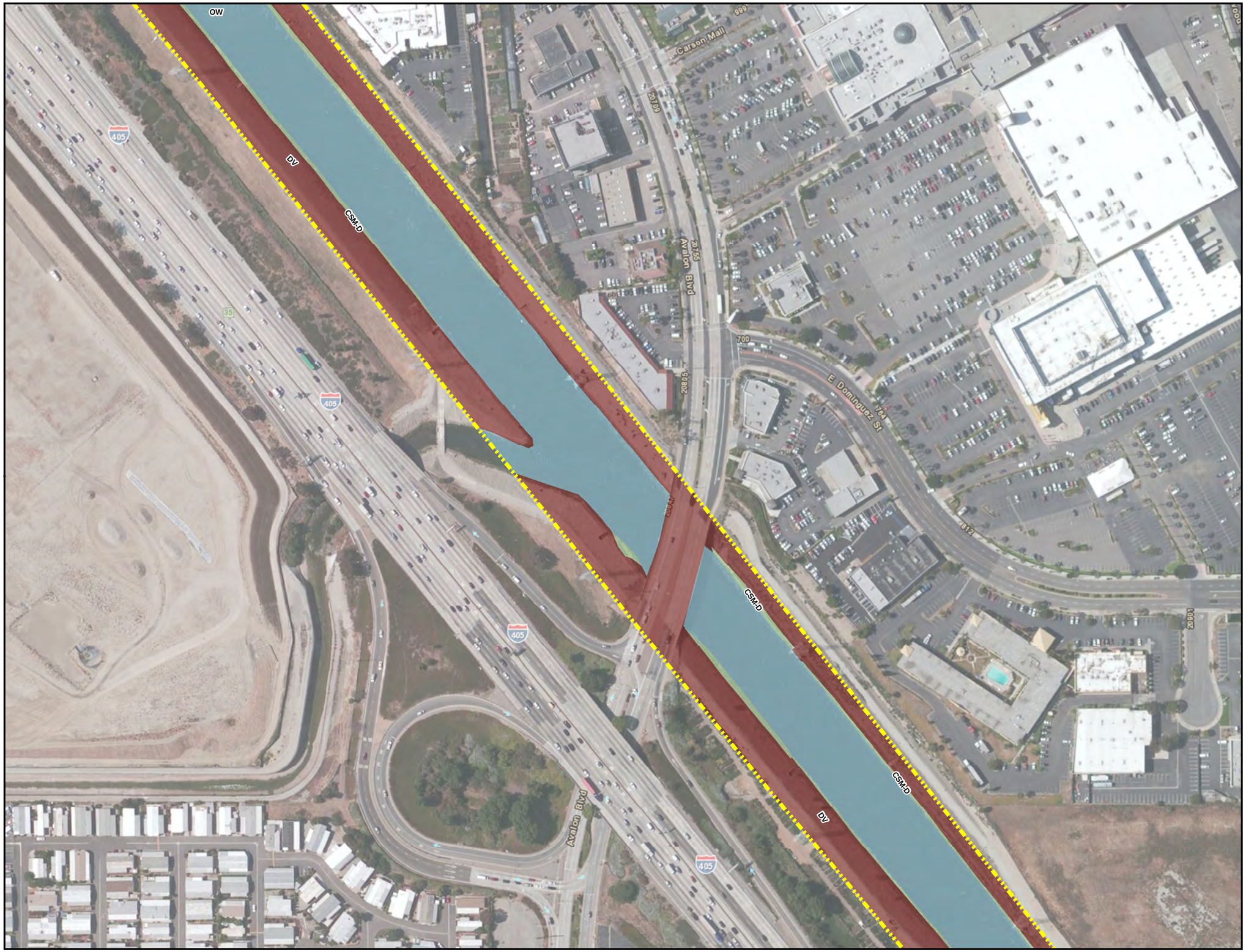


Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map

Legend

Dominguez Soft Bottom Channel

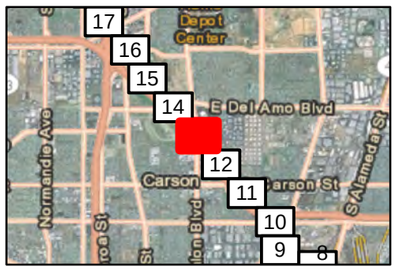
Vegetation Community

- Open Water (OW)
- Disturbed Coastal Salt Marsh (CSM-D)
- Developed (DV)

N

0 100 200 400

Feet



Map 13

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre

Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map

Legend

Dominguez Soft Bottom Channel

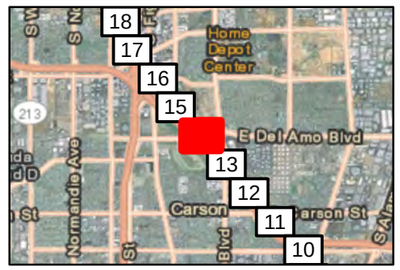
Vegetation Community

- Open Water (OW)
- Disturbed Coastal Salt Marsh (CSM-D)
- Big Saltbush Patch (BSP)
- Developed (DV)

N

0 100 200 400

Feet



Map 14

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre

Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map



Legend

- Dominguez Soft Bottom Channel

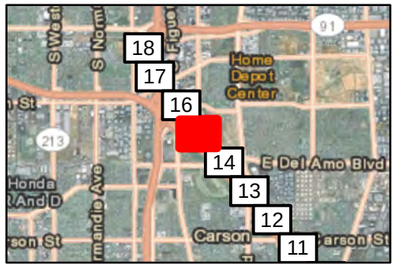
Vegetation Community

- Open Water (OW)
- Disturbed Coastal Salt Marsh (CSM-D)
- Ruderal (R)
- Developed (DV)

N

0 100 200 400

Feet



Map 15

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre



Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map

Legend

Dominguez Soft Bottom Channel

Vegetation Community

- Open Water (OW)
- Disturbed Coastal Salt Marsh (CSM-D)
- Ruderal (R)
- Developed (DV)

N

0 100 200 400

Feet



Map 16

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre



Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map

Legend

Dominguez Soft Bottom Channel

Vegetation Community

- Open Water (OW)
- Disturbed Coastal Salt Marsh (CSM-D)
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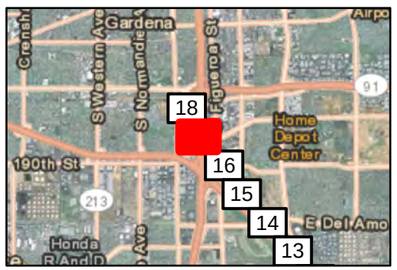
- Developed (DV)

N

0 100 200 400

Feet



Map 17

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre

Figure 2
Dominguez Soft Bottom Channel
Vegetation Communities Map

Legend

- Dominguez Soft Bottom Channel

Vegetation Community

- Open Water (OW)
- Disturbed Coastal Salt Marsh (CSM-D)
- Ruderal (R)
- Developed (DV)

N

0 100 200 400

Feet



Map 18

CHAMBERS GROUP

Name: 20705 BTR Dominguez Fig 2 Vegetation Communities.Mxd
Print Date: 4/25/2014, Author: stondre

3.4 SENSITIVE SPECIES

The following information is a list of abbreviations used to help determine the significance of biologically sensitive resources potentially occurring within the Project site.

California Rare Plant Rank (CRPR)

List 1A = Plants presumed extinct in California.
List 1B = Plants rare and endangered in California and throughout their range.
List 2 = Plants rare, threatened, or endangered in California but more common elsewhere in their range.
List 3 = Plants about which we need more information; a review list.
List 4 = Plants of limited distribution; a watch list.

CRPR Extensions

0.1 = Seriously endangered in California (greater than 80 percent of occurrences threatened/high degree and immediacy of threat).
0.2 = Fairly endangered in California (20 to 80 percent occurrences threatened).
0.3 = Not very endangered in California (less than 20 percent of occurrences threatened).

Federal

FE = Federally listed; Endangered
FT = Federally listed; Threatened
FC = Federal Candidate for listing

State

ST = State listed; Threatened
SE = State listed; Endangered
RARE = State-listed; Rare (Listed "Rare" animals have been redesignated as Threatened, but Rare plants have retained the Rare designation.)
SSC = State Species of Special Concern
WL = CDFW Watch List

The criteria used to evaluate the potential for sensitive species to occur within the Project site are outlined in Table 1, below.

Table 1: Criteria for Evaluating Sensitive Species Potential for Occurrence

PFO*	CRITERIA
Absent:	Species is restricted to habitats or environmental conditions that do not occur within the Project site.
Low:	Habitats or environmental conditions needed to support the species are of poor quality within the Project site.
Moderate:	Either habitat requirements or environmental conditions associated with the species occur within the Project site; or marginal habitat exists within the site and a historical record exists of the species within the Project site or immediate vicinity of the Project site.
High:	Both the habitat requirements and environmental conditions associated with the species occur within the site and a historical record exists of the species within the Project site or its immediate vicinity.
Present:	Species was detected within the site at the time of the survey.

* PFO: Potential for Occurrence

3.4.1 Sensitive Plants

Current database searches (CDFW 2014; CNPSEI 2014) resulted in a list of 19 federal and/or state listed threatened and endangered or rare sensitive plant species documented to occur within the vicinity of the Project site. After the literature review, it was determined that 17 species are absent from the Project site, and 2 species have a low potential to occur on the Project site based on the assessment of the various habitat types in the area of the site and the results of the reconnaissance survey. Factors used to determine the potential for occurrence included the quality of habitat, elevation, and the results of the reconnaissance survey. In addition, the locations of prior database records of occurrence were used as additional data; but since the CNDDB is a positive-sighting database, this data was used only in support of the analysis from the previously identified factors.

The following 17 plant species are considered **Absent** from the Project site due to lack of suitable habitat and/or the species is found outside the elevation range of the Project site:

- aphanisma (*Aphanisma blitoides*) – CRPR List 1B.2
- coastal dunes milk-vetch (*Astragalus tener* var. *titi*) – **FE, SE,** CRPR List 1B.1
- Coulter's saltbush (*Atriplex coulteri*) – CRPR List 1B.2
- south coast saltscale (*Atriplex pacifica*) – CRPR List 1B.2
- Davidson's saltscale (*Atriplex serenana* var. *davidsonii*) – CRPR List 1B.2
- southern tarplant (*Centromadia parryi* ssp. *australis*) – CRPR List 1B.1
- Catalina crossosoma (*Crossosoma californicum*) – CRPR List 1B.2
- island green dudleya (*Dudleya virens* ssp. *insularis*) – CRPR List 1B.2
- Santa Catalina Island desert-thorn (*Lycium brevipes* var. *hassei*) – CRPR List 1B.1
- mud nama (*Nama stenocarpum*) – CRPR List 2B.2
- spreading navarretia (*Navarretia fossalis*) – **FT**, CRPR List 1B.1
- prostrate vernal pool navarretia (*Navarretia prostrata*) – CRPR List 1B.1
- coast woolly-heads (*Nemacaulis denudata* var. *denudata*) – CRPR List 1B.2
- California Orcutt grass (*Orcuttia californica*) – **FE, SE,** CRPR List 1B.1
- Lyon's pentachaeta (*Pentachaeta lyonii*) – **FE, SE,** CRPR List 1B.1

- Brand's star phacelia (*Phacelis stellaris*) – CRPR List 1B.1
- San Bernardino aster (*Symphyotrichum defoliatum*) – CRPR List 1B.2

The analysis of the database searches and reconnaissance survey resulted in two species with **Low** potential to occur within the Project site due to low quality habitat present. In addition, known occurrences in habitats or conditions similar to those present at the Project site are recorded within 5 miles from the Project site. These two species are:

- **salt marsh bird's-beak (*Chloropyron maritimum* ssp*. maritimum*) – FE, SE, CRPR List 1B.2**

  Salt marsh bird's-beak is a federal and state listed endangered CRPR 1B.2 species. This hemiparasitic annual herb flowers between May and October in coastal dunes and the higher zones of marshes and swamps at elevations up to 100 feet amsl. Known ranges include: Los Angeles, Orange, Santa Barbara, San Bernardino, San Diego, San Luis Obispo, and Ventura counties and Baja California. Salt marsh bird's-beak is threatened by vehicles, road construction, foot traffic, loss of salt marsh habitat, and competition with nonnative plants.

  Of the coastal salt marsh habitat present within the channel, the majority of the habitat is disturbed, with nonnative species and trash present. Salt marsh habitat exists only as a narrow strip (1 to 3 feet wide) of vegetation along the water's edge along the majority of the Project site. The channel contains a high proportion of nonnative plant species, providing low quality habitat for this species. Previous salt marsh bird's-beak occurrences have been recorded within 3 miles of the Project site on Terminal Island; however, this population is now thought to be extirpated from this area. Therefore, salt marsh bird's-beak has a low potential to occur within the Project site.

- **estuary seablite (*Suaeda esteroa*) – CRPR List 1B.2**

  Estuary seablite is a CRPR 1B.2 species. This perennial herb flowers between May and January and is found in coastal areas. Habitat includes marshes and swamps at elevations up to 20 feet amsl. The known range of this species exists in Los Angeles, Orange, Santa Barbara, San Diego, and Ventura counties and Baja California. This species is threatened by development and recreation.

  Of the potentially suitable habitat present within the channel, most is fairly disturbed, with nonnative species. Potential habitat exists only as a narrow strip (1 to 3 feet wide) of vegetation along the water's edge along the majority of the Project site. The channel contains a high proportion of nonnative plant species and trash, providing low quality habitat for this species. Previous estuary seablite occurrences have been recorded within 3 miles of the Project site near San Pedro; however, this population is now presumed extant. Therefore, estuary seablite has a low potential to occur within the Project site.

3.4.2 Sensitive Wildlife

A current database search (CDFW 2014) resulted in a list of 17 federally and/or state listed endangered or threatened, SSC, or otherwise sensitive wildlife species that may potentially occur within the Project site. A literature review and the assessment of the various habitat types within the Project site determined that 13 sensitive wildlife species were considered absent from the site, 3 species have a low

potential to occur, and 1 species has a moderate potential to occur. Factors used to determine potential for occurrence included the quality of habitat, and results of the reconnaissance-level survey. In addition, the locations of prior database records of occurrence were used as additional data, but since the CNDDB is a positive-sighting database, this data was used only in support of the analysis from the previously identified factors.

The following 13 wildlife species are considered **Absent** from the Project site due to lack of suitable habitat present. In addition, no record shows the existence of these species within 5 miles of the Project site:

- American badger (*Taxidea taxus*) – SSC
- burrowing owl (*Athene cunicularia*) – SSC
- big free-tailed bat (*Nyctinomops macrotis*) – SSC
- California gnatcatcher (*Polioptila californica californica*) - **FT**, SSC
- coast horned lizard (*Phrynosoma blainvillii*) – SSC
- Mohave tui chub (*Siphateles bicolor mohavensis*) – **FE**, **SE**,
- Pacific pocket mouse (*Perognathus longimembris pacificus*) – **FE**, SSC
- Palos Verdes blue butterfly (*Glaucopsyche lygdamus palosverdesensis*) – **FE**
- San Diego desert woodrat (*Neotoma lepida intermedia*) - SSC
- silvery legless lizard (*Anniella pulchra pulchra*) - SSC
- southwestern willow flycatcher (*Empidonax traillii extimus*) - **FE**, **SE**
- south coast marsh vole (*Microtus californicus stephensi*) - SSC
- tricolored blackbird (*Agelaius tricolor*) - SSC

The analysis of the reconnaissance survey and database searches resulted in three species with **Low** potential to occur within the Project site due to low quality or unsuitable habitat present. In addition, known occurrences are recorded within 5 miles of the Project site:

- **bank swallow (*Riparia riparia*) - ST**

  The bank swallow (nesting) is a state listed threatened species. This passerine nests in colonies across much of North America; however, unlike many other swallows that nest on or inside man-made structures, the bank swallow mostly nests inside tunnels that it builds in steep sand or gravel banks or cliffs of river banks or quarries near water. Bank swallows will nest in colonies, including from 5 to over 3,000 individuals, with an average of 350 burrows per colony. This species inhabits open and partly open areas and is frequently found near flowing water. The bank swallow is the smallest swallow, with a wingspan of 4.75 inches. It has brown upperparts, white underparts, and a distinct brown band across its chest that distinguishes it from other swallow species. It flies erratically over water in search of insects, and occasionally takes insects from the surface of the water or the ground. Flood and erosion control projects in California have eliminated much of the historic habitat of this species (Garrison 1999; Garrison et al. 1987).

  The channel lacks steep banks consisting of sandy substrate and therefore provides low quality habitat for this species. Several areas throughout the Project site could provide potential habitat for bank swallows within spaces between riprap and areas along the banks of the channel for nesting. Several areas of open space are located along the channel. Bank swallow occurrences have been recorded within 3 miles of the Project site; however, these were near Reservation

Point in San Pedro, and this area has since been developed. Therefore, the bank swallow has a low potential to occur within the Project site.

- **California least tern (*Sternula antillarum browni*) – FE, SE**

  The California least tern (nesting colony) is a federally and state listed endangered species and a CDFW Fully Protected species. The least tern lives and breeds in the San Francisco Bay, Sacramento River Delta, and from San Luis Obispo County south into San Diego County. This small tern has long, tapered wings and a forked tail; white forehead with a black cap and black tipped wings; and yellow legs and bill. The species lives and breeds in shallow marine and estuarine shores. Nesting usually occurs in colonies on bare ground (sand or gravel) with sparse vegetation and near the water in relatively undisturbed areas (Rigney and Granholm 2005). Least terns feed upon small fish, including herrings, anchovies, silversides, and shiner surfperch. Nesting habitat has been lost to urban development and predation. Nonnative foxes, coyote, raccoon, American kestrels, burrowing owls, feral cats, and American crows all predate on nesting tern colonies.

  The downstream end of the Dominguez SBC opens up to a large marine area that could provide potential foraging habitat for the California least tern. This species has been known to occur within 3 miles of the Project site in habitat similar to conditions at the Project site near the landfill on Terminal Island and near Harbor Lake; however, the channel lacks any type of shore and is lined with large boulders and riprap. Therefore, this species has a low potential to nest within the Project site.

- **western mastiff bat (*Eumops perotis*) -SSC**

  The western mastiff bat is a California Species of Special Concern. It is a permanent resident throughout its range in southern California, southern Arizona, Texas, and south to South America. With a wingspan approaching 2 feet, the western mastiff bat is the largest bat species in North America. It roosts in small colonies or singly in primarily natural substrates such as cliff faces, large boulders, and exfoliating rock surfaces. It is less commonly found in artificial structures such as buildings and roof tiles. It is found in a wide variety of habitats, including desert scrub, chaparral, woodlands, floodplains, and grasslands. Reasons for observed population declines are unknown (TPWD 2008). The western mastiff bat is also unique in that its call can be readily identified with the unaided ear.

  The Project site lacks cliff faces and large, exfoliating rock surfaces, resulting in low quality habitat; however, riprap located along the banks throughout the length of the channel could provide potential habitat for the western mastiff bat. Western mastiff bat occurrences have been recorded within 3 miles of the Project site; however, the exact location is unknown. Therefore, the western mastiff bat has a low potential to occur within the Project site.

The analysis of the CNDDB search and reconnaissance survey resulted in one species with **Moderate** potential to occur within the Project site due to the presence of suitable habitat and known occurrences within 3 miles of the Project site in habitat similar to conditions at the Project site:

- **pocketed free-tailed bat (*Nyctinomops femorosaccus*) – SSC**

  The pocketed free-tailed bat is a California Species of Special Concern. This primarily Mexican bat species is found in Mexico south to the state of Michoacan and occurs in the southwestern United States from southern California, southern Arizona, southeastern New Mexico, and western Texas. Although rare in California, it is found in Riverside, San Diego, and Imperial counties. It roosts in small colonies of up to 60 individuals in rock crevices, caverns, roof tiles, and buildings. Although possible migration patterns are not well understood, pocketed free-tailed bat is most likely a yearlong resident. Little wintering information exists for this species within its range in the United States. The pocketed free-tailed bat feeds on insects flying over desert habitat, streams, or ponds. This species feeds primarily on moths but also eats crickets, flying ants, stinkbugs, froghoppers, leafhoppers, lacewings, and other insects.

  Several crevices occur throughout the channel within the riprap and under several of the bridges located along the channel. In addition, this species has been recorded within 3 miles of the Project site near Harbor City. Therefore, the pocketed free-tailed bat has a moderate potential to occur within the Project site.

3.5 GENERAL PLANTS

Biologists observed 40 plant species during the reconnaissance-level survey. Plant species observed during the survey were characteristic of the existing site conditions. No sensitive plant species were observed during the survey. A complete list of plants observed was recorded and appears in Appendix B.

3.6 GENERAL WILDLIFE

Biologists observed 30 wildlife species during the survey. Wildlife species observed or detected during the survey were characteristic of the existing site conditions. No sensitive wildlife species were observed during the survey effort. A complete list of wildlife observed or detected was recorded and is presented in Appendix C.

SECTION 4.0 – CONCLUSIONS AND RECOMMENDATIONS

4.1 SENSITIVE PLANTS

Results of the literature review, the assessment of the various habitat types within the survey site, and the results of the reconnaissance survey determined that 17 sensitive plants with a potential to occur in the area are considered to be absent from the site. Salt marsh bird's-beak, a federally and state listed endangered CRPR 1B.2 species, and estuary seablite, a CRPR 1B.2 species, have a low potential to occur within the Project site. To minimize potential impacts to these species, preconstruction surveys during the blooming period should be conducted. If the above species are identified within the Project site during surveys, an avoidance plan should be submitted to the resource agencies for approval prior to construction.

4.2 SENSITIVE WILDLIFE

Of the 17 sensitive wildlife species identified in the literature review, it was determined that 13 sensitive wildlife species were considered absent from the survey site, 3 had a low potential to occur, and 1 had a moderate potential to occur. The bank swallow, a state listed threatened species; the California least tern, a federally and state listed endangered species; and the western mastiff bat, a California Species of Special Concern, have low potential to occur within the Project site. The pocketed free-tailed bat is a SSC and is considered to have a moderate potential to occur within the site. To minimize potential impacts to these species, preconstruction surveys and biological monitoring should be conducted. If the above species are identified within the Project site during surveys or monitoring, a monitoring plan should be submitted to the resource agencies for approval prior to construction.

4.3 MIGRATORY BIRD TREATY ACT, AS AMENDED (16 USC 703-711)

In order to comply with the Migratory Bird Treaty Act (MBTA), any vegetation clearing should take place outside the general bird breeding season (February 14 to September 1), to the maximum extent practical. If this is not possible, prior to ground-disturbing activities, a qualified biologist should conduct and submit a migratory nesting bird and raptor survey report. The survey should occur no more than three days prior to initiation of Project activities, and any occupied passerine and/or raptor nests occurring within or adjacent to the study area should be delineated. Additional follow-up surveys may be required by the resource agencies. To the maximum extent practicable, a biologist approved buffer zone around occupied nests should be maintained during physical ground-disturbing activities. The buffer zone should be sufficient in size to prevent impacts to the nest. Once nesting has ceased, the buffer may be removed.

4.4 JURISDICTIONAL WATERS

The Project site is located within the Lower Dominguez Channel watershed, a blue-line stream, which contains riparian vegetation and flowing water. This Project site is subject to USACE, RWQCB, and CDFW jurisdiction. A formal jurisdictional delineation to determine potential impacts to waters of the United States and waters of the State may be required for this Project.

SECTION 5.0 – REFERENCES

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APPENDIX A – SITE PHOTOGRAPHS

APPENDIX A: SITE PHOTOGRAPHS



Photo 1. Dominguez Channel between Artesia Blvd and 182nd Street. A few small islands are located in the channel. Banks of channel are sparsely vegetated. Photo facing southeast.



Photo 2. Dominguez SBC between 182nd Street and Victoria Street. Banks are sparsely vegetated. Photo facing southeast.



Photo 3. Photo showing the channel between Victoria Street and Figueroa Street. Pickleweed covers the lower portion of the banks. Photo facing southeast.

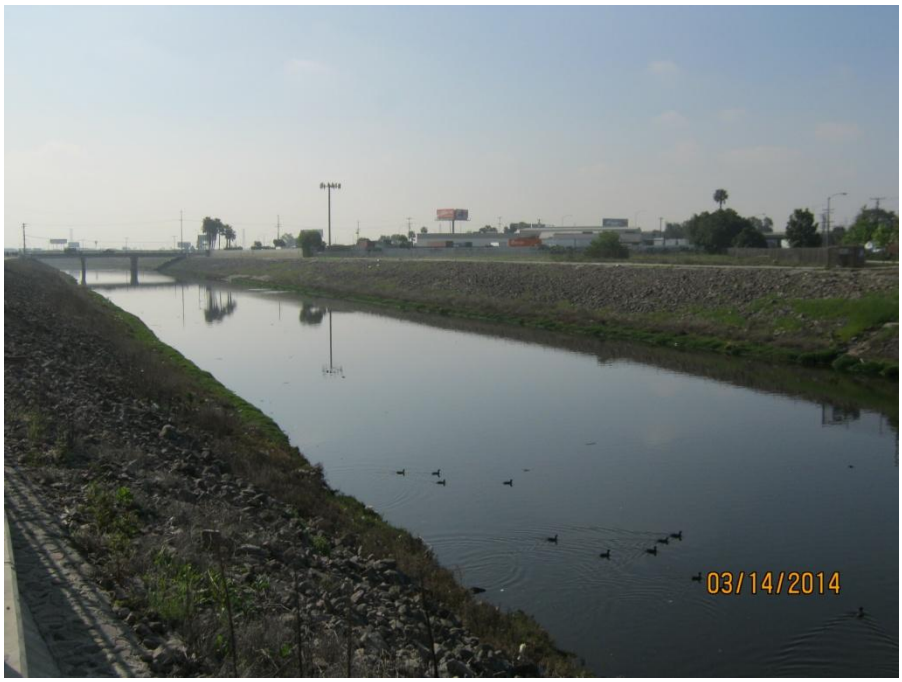

Photo 4. Dominguez SBC between S. Main Street and Del Amo Blvd. Banks are moderately vegetated. This portion of the channel is bordered by open space. Photo facing southeast.



Photo 5. Photo showing a small area containing native vegetation between Del Amo Blvd and Carson Street. This area could provide potential habitat for nesting birds. Photo facing east.



Photo 6. Photo showing the channel between Carson Street and 223rd Street. Banks along the west side of the channel are more evenly vegetated. The bridges located throughout the channel could provide potential nesting habitat for birds. Photo facing northwest.



Photo 7. Dominguez SBC between 223rd Street and Alameda Street. The channel flows through a power plant and is sparsely vegetated along the banks. Photo facing southeast.



Photo 7. Photo showing Dominguez SBC between Alameda Street and Sepulveda Blvd. This portion of the channel is sparsely vegetated and is bordered by an oil refinery. Photo facing northwest.



Photo 8. Photo showing the southern end of the channel where it opens to the Los Angeles Harbor. Banks are void of vegetation; however, several mollusks where observed attached to the rocks. Photo facing northwest.

APPENDIX B – PLANT SPECIES OBSERVED

APPENDIX B:
PLANT SPECIES OBSERVED

Scientific Name	Common Name
ANGIOSPERMS (EUDICOTS)	
AMARANTHACEAE	**AMARANTH FAMILY**
Amaranthus sp.	pigweed
ANACARDIACEAE	**SUMAC OR CASHEW FAMILY**
*Schinus molle**	Peruvian pepper tree
APIACEAE	**CARROT FAMILY**
*Apium graveolens**	celery
ASTERACEAE	**SUNFLOWER FAMILY**
Baccharis salicifolia subsp. *salicifolia*	mule fat
*Erigeron bonariensis**	flax-leaved horseweed
Erigeron canadensis	horseweed
*Glebionis coronaria**	garland daisy
*Helminthotheca echioides**	bristly ox-tongue
*Lactuca serriola**	prickly lettuce
*Pseudognaphalium luteoalbum**	everlasting cudweed
*Senecio vulgaris**	common groundsel
Sonchus asper subsp. *asper**	prickly sow thistle
*Sonchus oleraceus**	common sow thistle
BRASSICACEAE	**MUSTARD FAMILY**
*Hirschfeldia incana**	shortpod mustard
Lepidium campestre	field peppergrass
*Raphanus sativus**	radish
CHENOPODIACEAE	**GOOSEFOOT FAMILY**
Atriplex sp.	saltbush
*Kochia scoparia**	kochia
Salicornia pacifica	common pickleweed
*Salsola tragus**	Russian thistle
CONVOLVULACEAE	**MORNING-GLORY FAMILY**
Cressa truxillensis	alkali weed
EUPHORBIACEAE	**SPURGE FAMILY**
*Ricinus communis**	castor-bean
FABACEAE	**LEGUME FAMILY**
*Acacia longifolia**	Sydney golden wattle
Frankenia salina	alkali heath
GERANIACEAE	**GERANIUM FAMILY**
*Erodium cicutarium**	red-stemmed filaree

MYRTACEAE	**MYRTLE FAMILY**
*Callistemon citrinus**	crimson bottlebrush
Eucalyptus sp.*	gum tree
PLANTAGINACEAE	**PLANTAIN FAMILY**
*Plantago lanceolata**	English plantain
PLUMBAGINACEAE	**LEADWORT FAMILY**
*Limonium perezii**	Perez's marsh-rosemary
*Limonium sinuatum**	sea lavender
SOLANACEAE	**NIGHTSHADE FAMILY**
*Nicotiana glauca**	tree tobacco
ANGIOSPERMS (MONOCOTS)	
ARECACEAE	**PALM FAMILY**
*Washingtonia robusta**	Mexican fan palm
POACEAE	**GRASS FAMILY**
*Avena barbata**	slender wild oat
*Bromus diandrus**	ripgut grass
*Bromus hordeaceus**	soft chess
*Cynodon dactylon**	Bermuda grass
Distichlis spicata	saltgrass
*Festuca perennis**	Italian ryegrass
*Pennisetum setaceum**	fountain grass

*Non-Native Species

APPENDIX C – WILDLIFE SPECIES OBSERVED OR DETECTED

APPENDIX C:
WILDLIFE SPECIES OBSERVED

Scientific Name	Common Name
CLASS AVES	**BIRDS**
PODICIPEDIDAE	**grebes**
Aechmophorus occidentalis	western grebe
Podilymbus podiceps	pied-billed grebe
PHALACROCORACIDAE	**CORMORANTS**
Phalacrocorax auritus	double-crested cormorant
ARDEIDAE	**HERONS, BITTERNS**
Butorides virescens	green heron
Ardea alba	great egret
ANATIDAE	**DUCKS, GEESE, SWANS**
Anas americana	American wigeon
Anas discors	blue-winged teal
Anas platyrhynchos	mallard
Aythya affinis	lesser scaup
Oxyura jamaicensis	ruddy duck
ACCIPITRIDAE	**HAWKS, KITES, EAGLES**
Buteo jamaicensis	red-tailed hawk
RALLIDAE	**RAILS, GALLINULES, COOTS**
Fulica americana	American coot
CHARADRIIDAE	**PLOVERS**
Charadrius vociferus	killdeer
SCOLOPACIDAE	**SANDPIPERS**
Calidris minutilla	least sandpiper
Tringa flavipes	lesser yellowlegs
LARIDAE	**SKUAS, GULLS, TERNS, SKIMMERS**
Larus californicus	California gull
Larus occidentalis	western gull
COLUMBIDAE	**PIGEONS & DOVES**
Columba livia	rock pigeon
APODIDAE	**SWIFTS**
Aeronautes saxatalis	white-throated swift
TYRANNIDAE	**TYRANT FLYCATCHERS**
Sayornis nigricans	black phoebe
HIRUNDINIDAE	**SWALLOWS**
Petrochelidon pyrrhonota	cliff swallow
Stelgidopteryx serripennis	northern rough-winged swallow
CORVIDAE	**JAYS & CROWS**
Corvus brachyrhynchos	American crow
Corvus corax	common raven
MIMIDAE	**MOCKINGBIRDS, THRASHERS**
Mimus polyglottos	northern mockingbird
STURNIDAE	**STARLINGS**
Sturnus vulgaris	European starling
FRINGILLIDAE	**FINCHES**
Carpodacus mexicanus	house finch
CLASS MAMMALIA	**MAMMALS**
SCIURIDAE	**SQUIRRELS**
Spermophilus beecheyi	California ground squirrel