

Scientific Name Common Name	Status				Habitat Description	Considered in Impact Analysis	Rationale
	Federal	State	CNPS	County List			
<i>Phrynosoma coronatum blainvillii</i> San Diego horned lizard	~	SSC	N/A	2	Wide variety of habitats, open areas for sunning, scattered low bushes for cover, patches of loose soil for burial, abundant supply of ants and other insects	No	Low potential to occur as the site does not support dense scrub cover or sandy soils to promote hiding; nearest recorded occurrence is 1 mile to the west (Figure 7)
<i>Scaphiopus hammondi</i> western spadefoot toad	~	SSC	N/A	2	Dry hillsides, rocky areas near streams in grassland, chaparral, pinion-juniper woodland, juniper-sage woodland, pine-oak woodland, pine forests	No	No potential to occur as the site does not support these habitats
<i>Taxidea taxus</i> American badger	~	SSC	N/A	2	Open shrub, forest, herbaceous habitats; preys on burrowing rodents	No	Low potential to occur due to lack of suitable habitats and constant disturbances from surrounding urban uses, although site supports rodent burrows (food source)
<i>Vireo bellii pusillus</i> least Bell's vireo	FE	SE	N/A	1 (NE)	Unlike during the breeding season, they are not limited in winter to willow-dominated riparian areas, but occupy a variety of habitats including mesquite scrub within arroyos, palm groves, and hedgerows bordering agricultural and residential areas	No	No potential to occur as the site does not support these habitats
NE = Narrow Endemic (County of San Diego MSCP Subarea Plan)							

Source: CalFlora (2014); CNPS (2014); CDFW 2014; Jepson (2014); SDNHM (2014)

Federal Status	State Status	CNPS Rare Plant Rank
FE = Listed as endangered under the federal Endangered Species Act (FESA) FT = Listed as threatened under the FESA	SE = Listed as endangered under the California Endangered Species Act (CESA) CR = Species identified as rare by CDFW SSC = Species of Special Concern FPS = Fully Protected Species WL = Watch List	1A = Plants presumed extirpated in California and either rare or extinct elsewhere. 1B = Plant species that are rare, threatened, or endangered in California and elsewhere. 2A = Plants presumed extirpated in California, but more common elsewhere. 2B = Plant species that are rare, threatened, or endangered in California, but more common elsewhere. 3 = Plant species about which more information is needed (Review List), and which lack the necessary information for assignment to one of the other ranks or for rejection. 4 = Plant species of limited distribution (Watch List) or infrequent throughout a broader area in California, and which are uncommon enough that their status should be monitored regularly. Threat Ranks 0.1 -Seriously threatened in California (high degree/immediacy of threat) 0.2 -Fairly threatened in California (moderate degree/immediacy of threat) 0.3 -Not very threatened in California (low degree/immediacy of threats or no current threats known)

APPENDIX B PHOTOGRAPHS

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Photographs 1-4:
Panoramic view of southern half of project site as viewed from just west of Jamacha Boulevard.



Photographs 5-8:
Panoramic view of northern half of project site as viewed from just west of Jamacha Boulevard.



Photographs 9-12:
Panoramic view of eastern edge of project site near Jamacha Boulevard.



Photographs 13-20:

Views of onsite drainage swale traversing the middle of the site from the southeast to the western property edges.



Photographs 21-28:
Close-up views of disturbed wetlands within the onsite drainage swale at the western property edge, and water flowing from the offsite stormdrain outlet under the adjacent business park.



Photographs 29-36:
Close-up views of onsite drainage swale at the eastern property edge, adjacent to Jamacha Boulevard.

APPENDIX C
POTENTIALLY-OCCURRING SPECIAL-STATUS
PLANT AND WILDLIFE SPECIES

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Scientific Name	Common Name	Habitat Observed Within ¹
Boraginaceae <i>Eriodictyon trichocalyx</i> var. <i>trichocalyx</i>	Borage Family shiny-leaf yerba santa	DIS
Chenopodiaceae <i>Salsola australis</i>	Goosefoot Family Russian thistle	DIS
Brassicaceae * <i>Brassica nigra</i> * <i>Hirschfeldia incana</i> * <i>Raphanus sativus</i>	Mustard Family black mustard short-pod mustard wild radish	DIS DIS DIS
Cucurbitaceae <i>Marah macrocarpus</i>	Gourd Family wild cucumber	DIS ²
Cupressaceae * <i>Juniperus communis</i>	Cyprus Family common juniper	DIS
Euphorbiaceae * <i>Acacia cyclops</i> * <i>Acacia farnesiana</i> * <i>Acacia longifolia</i> * <i>Acacia saligna</i> <i>Croton setigerus</i> * <i>Euphorbia peplus</i> * <i>Ricinus communis</i>	Spurge Family coastal wattle sweet acacia golden wattle coojong dove weed petty spurge castor bean	DIS, ENC, WET DIS DIS DIS DIS DIS DIS, WET
Fabaceae <i>Astragalus trichopodus</i> var. <i>lonchus</i> <i>Calliandra californica</i> <i>Lupinus bicolor</i> * <i>Melilotus indicus</i>	Pea Family coast locoweed Baja fairy duster miniature lupine Indian sweet clover	DIS, WET DIS WET DIS
Geraniaceae * <i>Erodium botrys</i> * <i>Erodium valentinum</i> * <i>Geranium dissectum</i> * <i>Geranium macrorrhizum</i>	Geranium Family red-stem filaree Burdet filaree cut-leaf geranium big root geranium	DIS DIS DIS ENC

Scientific Name	Common Name	Habitat Observed Within ¹
Lamiaceae	Mint Family	
* <i>Lamium amplexicaule</i>	common henbit	DIS
* <i>Lavandula dentata</i>	lavender	DIS
* <i>Marrubium vulgare</i>	horehound	DIS
* <i>Rosmarinus officinalis prostratus</i>	prostrate rosemary	DIS
* <i>Salvia leucantha</i>	Mexican bush sage	DIS
* <i>Salvia microphylla</i> var. 'Hot Lips'	Hot Lips sage	DIS
Meliaceae	Mahogany Family	
* <i>Swietenia macrophylla</i>	Pacific coast mahogany	DIS
Moraceae	Mulberry Family	
* <i>Ficus benjamina</i> var. <i>variegata</i>	variegated ficus	DIS
Myrtaceae	Myrtle Family	
* <i>Eucalyptus</i> spp.	gum tree	ENC
<i>Melaleuca quinquenervia</i>	Cajeput tree	DIS
Nyctaginaceae	Four O'Clock Family	
* <i>Bougainvillea</i> spp.	bougainvillea	DIS
Oleaceae	Olive Family	
<i>Fraxinus dipetala</i>	California ash	DIS ² , WET
Plantaginaceae	Plantain Family	
* <i>Plantago major</i>	common plantain	DIS
Poaceae	Grass Family	
* <i>Avena</i> spp.	wild oats	DIS
* <i>Bromus</i> spp.	bromes	DIS
<i>Elymus repens</i>	quackgrass	WET
* <i>Festuca myuros</i>	rat-tail fescue	DIS
* <i>Festuca perennis</i>	rye grass	DIS
* <i>Hordeum</i> spp.	barleys	DIS
* <i>Miscanthus purpurascens</i>	red-leaved Miscanthus	DIS
* <i>Pennisetum setaceum</i>	fountain grass	DIS
* <i>Pennisetum setaceum</i> 'Rubrum'	purple-leaved fountain grass	DIS
* <i>Polypogon monspeliensis</i>	rabbitfoot	DIS
* <i>Schimus barbatus</i>	Mediterranean schismus	DIS
Polygonaceae	Buckwheat Family	
<i>Eriogonum fasciculatum</i> var. <i>fasciculatum</i>	California buckwheat	DIS
* <i>Rumex conglomeratus</i>	curly dock	DIS
Primulaceae	Primrose Family	
* <i>Anagallis arvensis</i>	scarlet pimpernel	DIS

Scientific Name	Common Name	Habitat Observed Within ¹
Rutaceae <i>*Ungnadia speciosa</i>	Rue Family Mexican buckeye	DIS
Salicaceae <i>Salix laevigata</i> <i>Salix gooddingii</i> <i>Salix lucida ssp. lasiandra</i>	Willow Family red willow black willow shiny willow	ENC, WET DIS ² DIS ²
Sapindaceae <i>*Koelreuteria paniculata</i>	Soapberry Family goldenrain tree	DIS
Scrophulariaceae <i>*Myoporum laetum</i>	Figwort Family Ngaio tree	DIS
Solanaceae <i>*Nicotiana glauca</i>	Nightshade Family tree tobacco	DIS
Tamaricaceae <i>*Tamarix parviflora</i>	Salt Cedar Family tamarisk	DIS, WET
Tropaeolaceae <i>Urtica dioica ssp. holosericea</i>	Nasturtium Family stinging nettle	DIS, WET
Typhaceae <i>Typha latifolia variegata</i>	Cat-tail Family broad-leaf cattail	WET

¹ Habitat codes are as follows:

ENC	=	Disturbed Encelia Scrub
DIS	=	Disturbed Habitat
WET	=	Disturbed Wetlands

² Occurs along the onsite drainage channel that is identified as potential jurisdictional waters.

*Non-native or ornamental species

Animal Species Observed

Scientific Name	Common Name	Habitat Observed Within ¹
REPTILES		
Iguanidae <i>Uta stansburiana</i>	Iguanids side-blotched lizard	DIS
BIRDS		
Accipitridae <i>Buteo jamaicensis</i>	Plovers red-tailed hawk	overhead

Scientific Name	Common Name	Habitat Observed Within ¹
Charadriidae <i>Charadrius vociferus</i>	Plovers killdeer	DIS
Columbidae <i>Zenaida macroura</i>	Pigeons and Doves mourning dove	DIS
Corvidae <i>Corvus brachyrhynchos</i> <i>Corvus corax</i>	Jays and Crows American crow Common raven	DIS DIS
Emberizidae <i>Melospiza melodia</i>	Emberizids Song sparrow	DIS, WET
Fringillidae <i>Carpodacus mexicanus</i> <i>Carduelis psaltria</i>	Finches house finch lesser goldfinch	DIS DIS, WET
Hirundinidae <i>Stelgidopteryx serripennis</i>	Swallows northern rough-winged swallow	overhead
Icteridae <i>Icterus cucullatus</i>	Blackbirds and Orioles hooded oriole	DIS, WET
Mimidae <i>Mimus polyglottos</i>	Mockingbirds and Thrashers northern mockingbird	DIS, WET
Parulidae <i>Dendroica coronata</i>	Warblers yellow-rumped warbler	DIS, WET
Passeridae <i>Passer domesticus</i>	Old World Sparrows house sparrow	DIS
Sturnidae <i>Sturnus vulgaris</i>	Starlings European starling	DIS
Trochilidae <i>Calypte anna</i>	Hummingbirds Anna's hummingbird	DIS, WET
Tyrannidae <i>Contopus sordidulus</i> <i>Sayornis saya</i> <i>Tyrannus vociferans</i>	Flycatchers and Kingbirds western wood pee-wee Say's phoebe Cassin's kingbird	DIS ENC, DIS
MAMMALS		
Sciuridae <i>Otospermophilus beecheyi</i>	Squirrels California ground squirrel	DIS

Scientific Name	Common Name	Habitat Observed Within ¹
-----------------	-------------	--------------------------------------

Leporidae

Sylvilagus audubonii

Hares and Rabbits

desert cottontail

DIS

¹ Habitat codes are as follows:

- | | | |
|-----|---|-------------------------|
| ENC | = | Disturbed Encelia Scrub |
| DIS | = | Disturbed Habitat |
| WET | = | Disturbed Wetlands |

APPENDIX D

JURISDICTIONAL DELINEATION

APPENDICES

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SWEETWATER VILLAGE PROJECT

**Spring Valley, County of San Diego,
California**

DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

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November 2014

JN 134978

SWEETWATER VILLAGE PROJECT

SPRING VALLEY, COUNTY OF SAN DIEGO, CALIFORNIA

Delineation of State and Federal Jurisdictional Waters

The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a jurisdictional “waters of the U.S.” (including wetlands) and “waters of the State” determination for the above-referenced project.



Daniel Cardoza
Regulatory Analyst
Planning and Environmental Sciences



Richard Beck, PWS, CEP, CPESC
Vice President
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November 2014

Executive Summary

Introduction: At the request of SAM-Sweetwater, LLC, RBF Consulting, a Michael Baker International Company (RBF), has prepared this Delineation of State and Federal Jurisdictional Waters for the Sweetwater Village Project (project), located in Spring Valley, San Diego County, California.

Methods: The field work for this delineation was conducted on October 14, 2014. This delineation documents the regulatory authority of the U.S. Army Corps of Engineers Los Angeles District (Corps), San Diego Regional Water Quality Control Board (Regional Board), and California Department of Fish and Wildlife (CDFW) pursuant to the Federal Clean Water Act (CWA), California Porter-Cologne Water Quality Control Act, and California Fish and Game Code¹ respectively.

Results: State and federal jurisdictional areas were identified within the project site. One unnamed drainage and associated riparian vegetation was observed within the project site. Placement of fill and/or alteration within these jurisdictional areas is subject to Corps, Regional Board, and CDFW jurisdiction and approval. Table ES-1 identifies the total impacted jurisdiction on-site for each regulatory agency.

Conclusion: Impacts to the on-site jurisdictional drainages would occur as a result of the proposed project; therefore approvals from the regulatory agencies are required. The project applicant must obtain the following regulatory approvals if construction activities are proposed within the identified jurisdictional areas: Corps CWA Section 404 Nationwide Permit 29, *Residential Developments*; Regional Board CWA Section 401 Water Quality Certification; and CDFW Section 1602 Streambed Alteration Agreement (SAA)².

TABLE ES-1. Jurisdictional Area and Impact Summary

Jurisdictional Feature	Corps		Regional Board		CDFW			
	Acreage	Linear Feet	Acreage	Linear Feet	Streambed		Associated Riparian	
					Acreage	Linear Feet	Acreage	Linear Feet
Drainage 1	0.23	954	0.23	954	0.39	954	0.03	--

¹ The project area was surveyed pursuant to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (Corps 2008); the Practices for Documenting Jurisdiction under Section 404 of the CWA Regional Guidance Letter (Corps 2007); Minimum Standards for Acceptance of Preliminary Wetland Delineations (Corps 2001); and the Field Guide to Lake and Streambed Alteration Agreements Section 1600-1607 (CDFW 1994).

² Other approvals (in-lieu of an SAA) may be acquired from the CDFW based on a formally-submitted notification package.

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APPENDIX

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List of Acronyms

CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CWA	Clean Water Act
DBH	Diameter at Breast Height
EPA	Environmental Protection Agency
FAC	Facultative Vegetation
FACU	Facultative Upland Vegetation
FACW	Facultative Wetland Vegetation
GPS	Ground Positioning System
IP	Individual Permit
LF	Linear Feet
MSL	Mean Sea Level
NWP	Nationwide Permit
OBL	Obligate Wetland Vegetation
OHWM	Ordinary High Water Mark
PWS	Professional Wetland Scientist
RBF	RBF Consulting
RPO	Resource Protection Ordinance
RPW	Relatively Permanent Waters
SAA	Streambed Alteration Agreement
SBBM	San Bernardino Base and Meridian
SWANCC	Solid Water Agency of Northern Cook County
TNW	Traditional Navigable Water
UPL	Obligate Upland Vegetation
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WoUS	Waters of the United States

Section 1 Introduction and Purpose

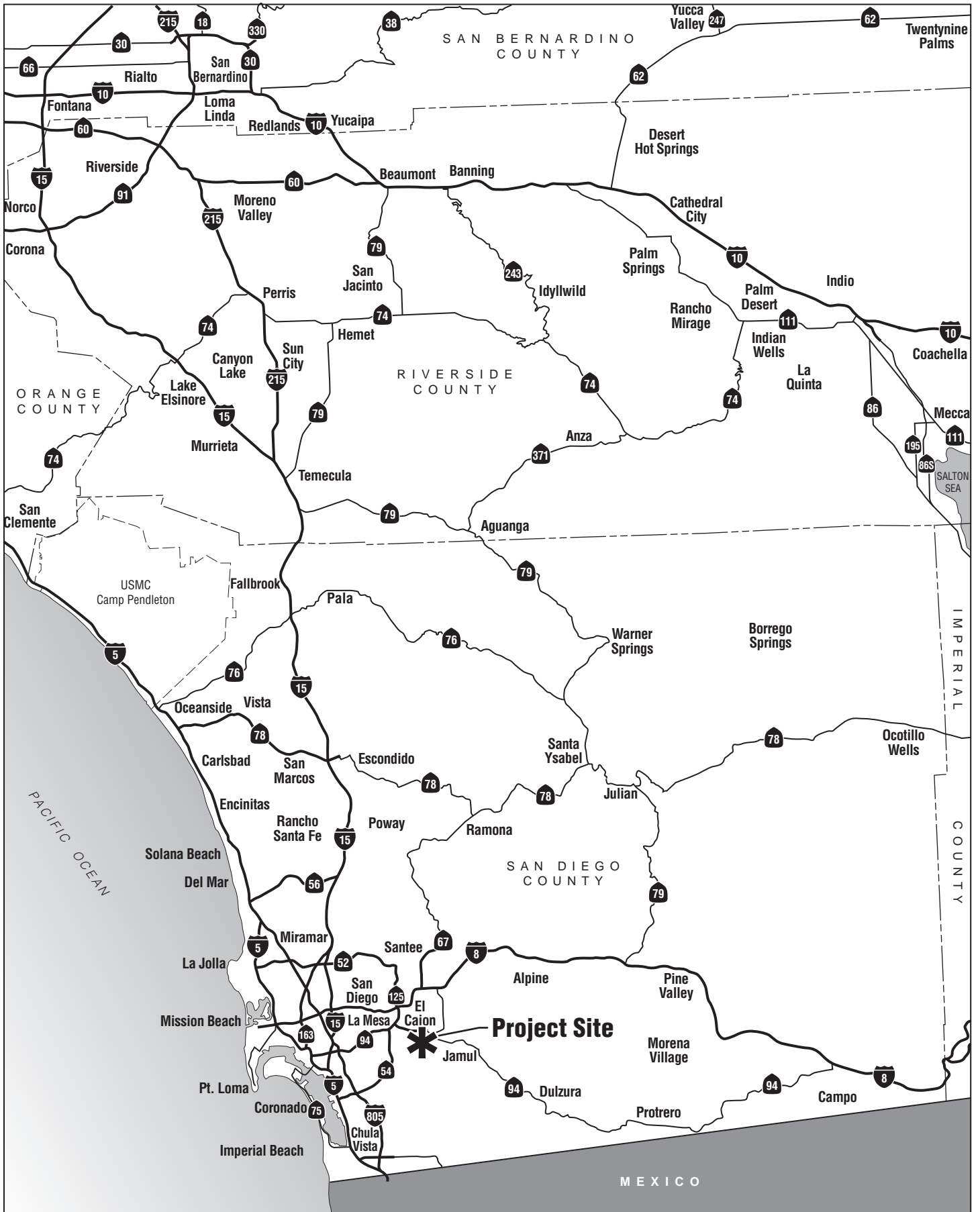
This delineation has been prepared for SAM-Sweetwater, LLC, in order to delineate the U.S. Army Corps of Engineers' (Corps), San Diego Regional Water Quality Control Board's (Regional Board), and California Department of Fish and Wildlife's (CDFW) jurisdictional authority located within the Sweetwater Village Project (project site). The field work for this delineation was conducted on October 14, 2014.

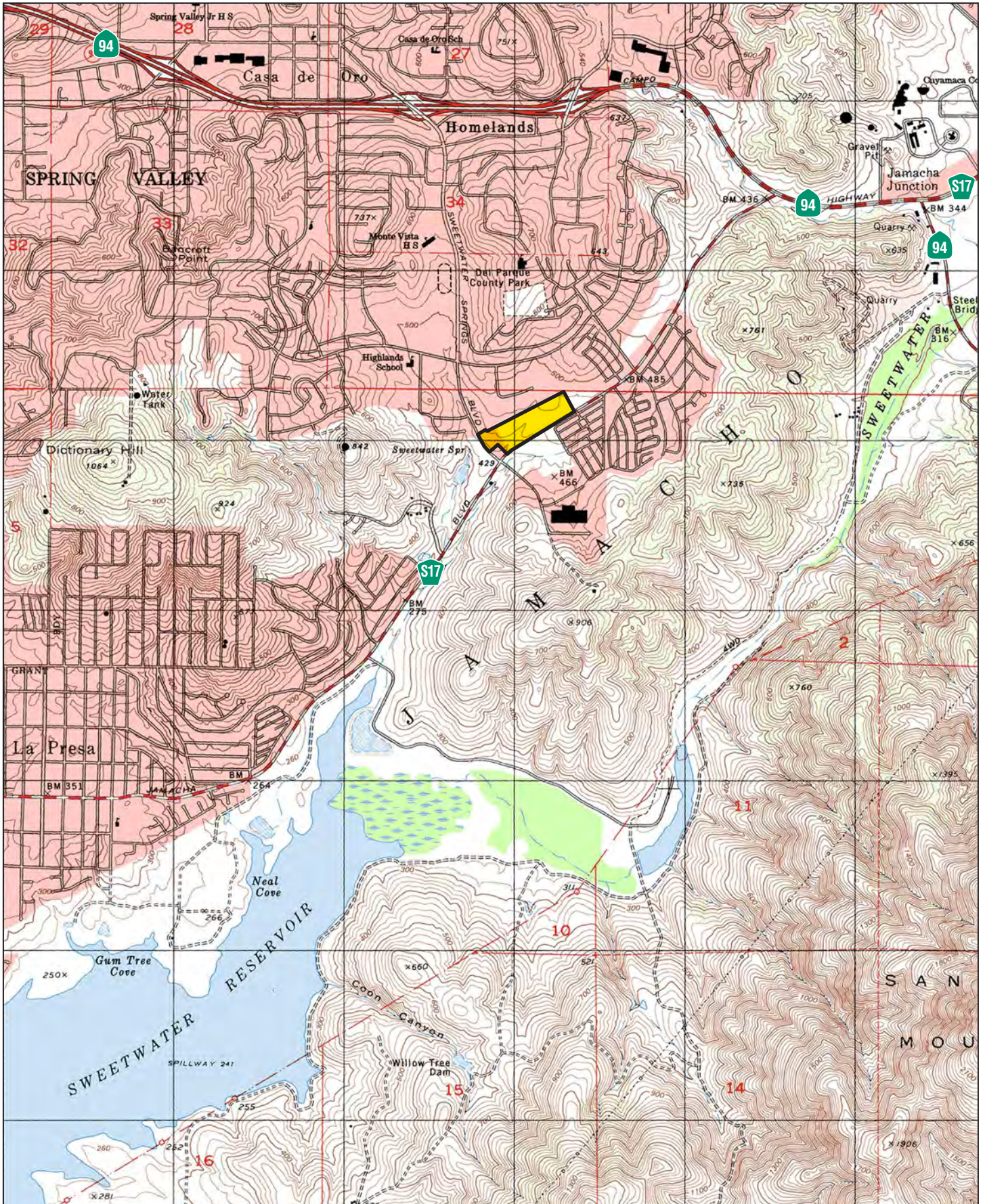
The proposed project site is located in the community of Spring Valley in unincorporated San Diego County (refer to Exhibit 1, *Regional Vicinity*). The project site is depicted on the Jamul Mountains, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map within an unsectioned portion of Township 16 South, Range 1 West (refer to Exhibit 2, *Site Vicinity*). Specifically, the approximate 20-acre site is situated at the northeast corner of Sweetwater Springs Boulevard and Jamacha Boulevard (refer to Exhibit 3, *Project Site*); the address is 2657 Sweetwater Springs Boulevard.

This delineation has been designed to document the authority of the regulatory agencies, explain the methodology undertaken by RBF Consulting (RBF) to document jurisdictional authority, and to support the findings made by RBF within the boundaries of the project site. This report presents RBF's best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies; however, only the regulatory agencies can make a final determination of jurisdictional boundaries.

1.1 PROJECT SITE BACKGROUND

The project site consists of an undeveloped parcel of land and several unimproved (dirt/gravel) and unmaintained cement access roads. The site was originally designated as future right-of-way for the State Route 54 (SR-54) extension and was utilized as a nursery for several years, though the California Department of Transportation (Caltrans) has since abandoned the SR-54 extension and sold the property at auction as excess right-of-way. The previous nursery use has since been abandoned. The access roads are paved across the five stream crossing points, causing a disruption in flow across the property. Surrounding land uses consist of residential development, commercial and industrial development, and roads, with undeveloped open space adjacent to the southwest border of the project site.





SOURCE: USGS Jamul Moutains, CA Quadrangle, 1994.

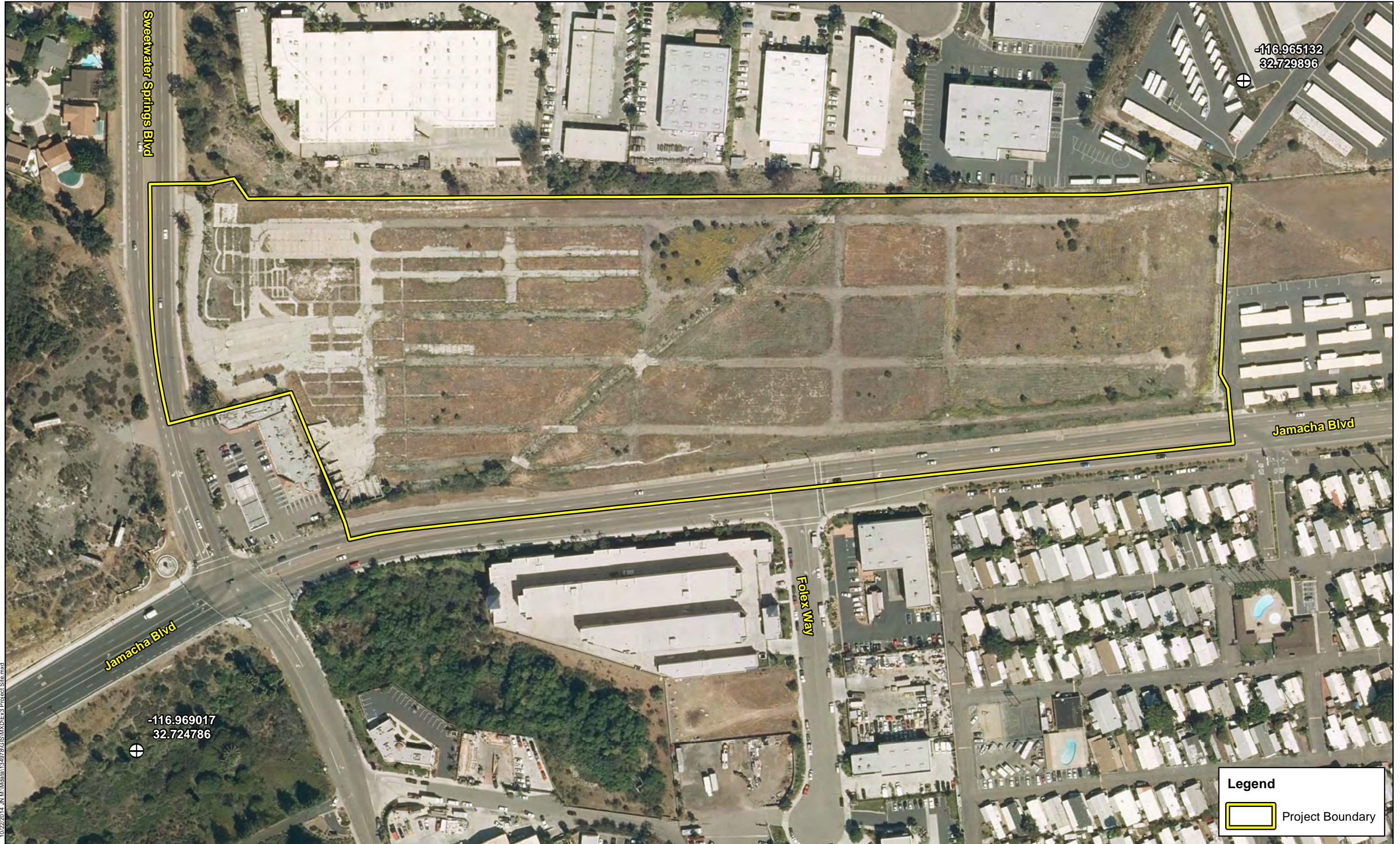
 Project Site

SWEETWATER VILLAGE PROJECT
 DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Site Vicinity

Exhibit 2





Sweetwater Springs Blvd

-116.965132
32.729896

Jamacha Blvd

Jamacha Blvd

Foley Way

-116.969017
32.724786

Legend

 Project Boundary

10/22/2014 11:01:48 AM M:\Mdb\134878\GIS\MXDs\3 Project Site.mxd

Michael Baker INTERNATIONAL

0 75 150 Feet

Source: Eagle Aerial -- 2013

SWEETWATER VILLAGE
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS
Project Site

1.2 PROJECT DESCRIPTION

The proposed project involves the development of 126 detached residential condominium units each with fenced exclusive backyards, attached two-car garages with minimum 19-foot long driveways, and minimum 350-square-foot private useable open space areas; a 1.14-acre public active park; a series of useable greenbelt open space areas; a series of shallow water quality areas, and more extensive basins along Jamacha Boulevard; a 6- to 8-foot high sound wall atop a 3- to 4-foot high berm along the majority of project frontage adjacent to Jamacha Boulevard and Sweetwater Springs Boulevard; and an 8-foot-wide public trail along the north side of Jamacha Boulevard to enhance the public pedestrian network. The units would be accessed by a series of 24-foot wide access drives.

Section 2 Regulations and Methodology

2.1 SUMMARY OF REGULATIONS

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. CDFW regulates activities under the Fish and Game Code Section 1600-1616, and the Regional Board regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act. For a detailed summary of regulations, refer to Appendix B.

2.1.1 FEDERAL JURISDICTIONAL WATERS

Generally, the Corps and Environmental Protection Agency (EPA) will assert jurisdiction over the following waters:

- Traditional navigable waters
- Wetlands adjacent to traditional navigable waters
- Non-navigable tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically three months)
- Wetlands that directly abut such tributaries

The Corps and EPA will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with traditional navigable water:

- Non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary

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 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 traditional navigable waters. It should be noted a significant nexus includes consideration of hydrologic and ecologic factors.

The Corps and EPA generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow)
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

2.1.2 STATE JURISDICTIONAL AREAS

2.1.2.1 California Regional Water Quality Control Boards

The California *Porter-Cologne Water Quality Control Act* gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters.

2.1.2.2 California Department of Fish and Wildlife Jurisdiction

Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state. The Fish and Wildlife’s regulatory authority extends to include riparian habitat (including wetlands) supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, the CDFW takes jurisdiction to the top of bank of the stream or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation.

2.1.3 LOCAL JURISDICTIONAL AREAS

2.1.3.1 San Diego County Resource Protection Ordinance

The *San Diego County Resource Protection Ordinance (RPO)* establishes limits of development for the County’s wetlands, floodplains, steep slopes, sensitive biological habitats, and prehistoric and historic sites. The RPO defines wetlands as lands having one or more of the following attributes: (1) at least periodically, the land supports a predominance of hydrophytes; (2) the substratum is predominantly undrained hydric soil; or (3) an ephemeral or perennial stream is present, whose substratum is predominately non-soil and such lands contribute substantially to the biological functions or values of wetlands in the drainage system. The RPO defines floodplains as the relatively flat area of low lands adjoining and including the channel of a river, stream watercourse, bay, or other body of water which is subject to inundation by the flood waters of the 100 year frequency flood as shown on floodplain maps approved by the County Board of Supervisors.

2.2 METHODOLOGY

RBF conducted a site reconnaissance to determine jurisdictional “waters of the United States” and “waters of the State” (including potential wetlands and vernal pools), located

within the boundaries of the project site. The literature review and site visit are utilized to define:

- the Corps' ordinary high water mark (OHWM) and any three (3) parameter wetlands on-site. The actual presence or absence of wetlands on-site were verified through the determination of the presence of hydrologic conditions, hydrophytic vegetation, and hydric soils pursuant to the September 2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*;
- the CDFW's jurisdiction being identified via the top of bank of the on-site streambed or to the outer drip line of riparian vegetation (if present) pursuant to the 1994 CDFW *Field Guide to Lake and Streambed Alteration Agreements*;
- the County's jurisdiction being identified through the predominance of hydrophytes, the predominance of hydric soil, and the potential contribution to biological functions or values of wetlands in the drainage system; and,
- in cases where isolated and/or Rapanos conditions are present, the delineation would identify areas under the jurisdiction of the Regional Board pursuant to the California Porter-Cologne Water Quality Act.

Analysis presented in this document is supported by field surveys and verification of current conditions conducted on February 19, 2014. While in the field, jurisdictional areas were recorded onto a base map at a scale of 1" = 100' using the topographic contours and visible landmarks as guidelines. Data points were obtained while walking the project site with a Garmin 62 Global Positioning System (GPS) Map62 in order to record and identify specific widths for the ordinary high water marks (OHWM), soil pit locations, picture point locations, and pertinent jurisdictional features. This data was then transferred via USB port as a .shp file and added to the project's jurisdictional map. The jurisdictional map was prepared in ESRI ArcInfo Version 10. For a detailed summary of methodology, refer to Appendix C.

Section 3 Literature Review

Review of relevant literature and materials often aids in preliminarily identifying areas that may fall under an agency's jurisdiction. A summary of RBF's literature review is provided below (refer to Section 7.0 for a complete list of references used during the course of this delineation). Copies of documentation are also contained in Appendix D, *Documentation*.

3.1 WATERSHED REVIEW

The project site is located within the San Diego watershed (HUC 18070304). The watershed included entirely within the boundaries of San Diego County and encompasses an area of approximately 1,533 square miles. The watershed is bound by the San Luis Rey-Escondido watershed to the north, the San Felipe Creek and Carrizo Creek watersheds to the east, and the Cottonwood-Tijuana watershed to the south. The watershed originates in the Cuyamaca and Volcan Mountains and drains to the Pacific Ocean. Major water bodies within the watershed include the Otay River, Sweetwater River, Lower Otay Reservoir, San Diego River, Sweetwater Reservoir, and Lake Murray.

3.2 LOCAL CLIMATE

The San Diego River watershed is characterized by a Mediterranean climate, or semi-arid climate, with warm, sunny, dry summers and cool, rainy, mild winters. Climatological data obtained from nearby weather stations indicates the annual precipitation averages 13.24 inches per year. Almost all of the precipitation in the form of rain occurs in the months between October and April, with significantly less, if any, occurring between the months of May and September. The wettest month is typically January, with a monthly average total precipitation of 2.80 inches. The average maximum and minimum temperatures for the region are 75.1 and 49.9 degrees Fahrenheit (F), respectively, with August (monthly maximum average 86.4° F) being the hottest month and December (monthly minimum average 38.6° F) being the coldest.

The climatological cycle of the region results in higher surface water flows in the spring and early summer and lower flows during the dry season. Winter and spring floods generated by storms are not uncommon in wet years. Similarly, during the dry season, infrequent summer storms can cause torrential floods in local streams.

3.3 USGS TOPOGRAPHIC QUADRANGLE

The project site is located within Township 16 South, Range 1 West, San Bernardino Base Meridian of the *Jamul Mountains, California* United States Geological Survey (USGS) 7.5-minute quadrangle (1975). On-site topography is generally flat and ranges from approximately 490 feet above mean sea level (MSL) along the northeastern boundary of the

project site to approximately 445 feet above MSL near the southwest corner of the project site. The topographic map does not show “blue-line” water features onsite, though the mapped topographic variation indicates a potential drainage located at the center of the site. The topographic map shows the project site as undeveloped, with Jamacha Blvd running adjacent to the southern border of the project site and Sweetwater Springs Blvd running adjacent to the western border of the project site.

3.4 AERIAL PHOTOGRAPH

Prior to the field visits, RBF reviewed a current aerial photograph dated January 17, 2014 from Google Earth Imaging for the project site. Aerial photographs can be useful during the delineation process, as the photographs often indicate drainages and vegetation (i.e., riparian vegetation) present within the boundaries of the project site (if any).


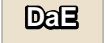

According to the aerial photograph the project site appears to contain one sparsely vegetated rock-lined drainage feature. The drainage contains five separate cemented road crossings that disrupt the hydrologic continuity of the feature. Past aerial photography indicates that the feature previously contained no vegetation and was utilized to convey upstream urban runoff. Vegetation is clustered near the northernmost (upstream) extent of the feature, with several palm trees visible within the drainage feature. Surrounding land uses consist of residential development, commercial and industrial development, and roads, with undeveloped open space adjacent to the southwest border of the project site

3.5 SOIL SURVEY

On-site and adjoining soils were researched prior to the field visits using the U.S. Department of Agriculture, Soil Conservation Service, Soil Survey for the San Diego County Area, California and the Natural Resources Conservation Service, Custom Soil Resource Report for San Diego County Area, California (refer to Exhibit 4, *Soils Map*). The presence of hydric soils is initially investigated by comparing the mapped soil series for the project site to the County list of hydric soils. Soil surveys furnish soil maps and interpretations originally needed in providing technical assistance to farmers and ranchers; in guiding other decisions about soil selection, use, and management; and in planning, research, and disseminating the results of the research. In addition, soil surveys are now heavily utilized in order to obtain soil information with respect to potential wetland environments and jurisdictional areas (i.e., soil characteristics, drainage, and color). The following soil series have been reported on-site:



Legend

-  Project Boundary
-  DaE Diablo Clay (15% to 30% Slopes)
-  HrD2 Huerhuero Loam (9% to 15% Slopes, Eroded)

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Diablo clay, 15 to 30 percent slopes (DaE)

This soil type is comprised of well-drained soils formed from weathered shale and sandstone. These soils are found on complex undulating rolling to steep uplands within a large range of slopes at an elevation range of 25 to 3,000 feet above MSL. Mean annual precipitation is approximately 10 to 35 inches. The mean annual air temperature is approximately 57 to 62 degrees F with a frost-free period of 220 to 320 days. This soil type is typically dark grey (10YR 4/1) to very dark gray (10YR 3/1) when moist, and is very hard, firm, sticky, and plastic. This soil type has slow permeability with an available water holding capacity of 4 to 5 inches. Runoff is medium to rapid with a moderate to high erosion hazard.

Huerhuero loam, 9 to 15 percent slopes, eroded (HrD2)

This soil type is comprised of moderately well-drained loams formed from sandy marine sediments. These soils are found on undulating rolling to steep uplands within a large range of slopes at an elevation range of approximately 10 to 400 feet above MSL. Mean annual precipitation is approximately 10 to 12 inches. The mean annual air temperature is approximately 60 to 62 degrees F with a frost-free period of 300 to 350 days. This soil type is typically brown to pale-brown. The available water holding capacity is 3.5 to 5 inches. Runoff is medium with a moderate erosion hazard.

3.6 HYDRIC SOILS LIST OF CALIFORNIA

RBF reviewed the Hydric Soils List of California, provided by the Natural Resources Conservation Service, in an effort to verify whether or not on-site soils are considered to be hydric. It should be noted that lists of hydric soils along with soil survey maps are good off-site ancillary tools to assist in wetland determinations, but they are not a substitute for on-site investigations. None of the on-site soils are listed as hydric.

3.7 NATIONAL WETLANDS INVENTORY

RBF reviewed the U.S. Fish and Wildlife Service's National Wetland Inventory maps. No wetland features were noted within the project site (refer to Appendix D, *Documentation*).

3.8 FLOOD ZONE

RBF searched the Federal Emergency Management Agency website for flood data for the project site. Based on the Flood Insurance Rate Map No. 06073C1927G the project site is located within Zone X and is not located within the 100-year floodplain (refer to Appendix D, *Documentation*).

Section 4 Site Conditions

RBF Professional Wetland Scientist (PWS) Wesley Salter and Regulatory Analyst Daniel Cardoza visited the project site from approximately 8:30 a.m. to 12:30 p.m. on October 14, 2014 to verify existing conditions and document potential jurisdictional areas. Temperatures during the site visit were in the low 70's (°F) with calm wind conditions. Refer to Appendix A, *Site Photographs*, for representative photographs taken throughout the project site.

Drought conditions have developed over the past three years in California. Evaluation of temporal shifts in vegetation and periodic lack of hydrology indicators during periods of below-normal rainfall, drought conditions, and unusually low winter snowpack is needed. Different sampling and analytical approaches for evaluating both vegetation under extended drought conditions and hydrology in drought years has been identified. To the extent possible, the hydrophytic vegetation decision is based on the plant community that is normally present during the wet portion of the growing season in a normal rainfall year. The evaluation of hydrology considers the timing of the site visit in relation to normal seasonal and annual hydrologic variability, and whether the amount of rainfall prior to the site visit has been normal. In drought conditions, direct observation of plants and hydrology indicators may be misleading or problematic, so other methods of making wetland decisions may be appropriate. In general, wetland determinations on difficult or problematic sites are based on the best information available to the field inspector, interpreted in light of his or her professional experience and knowledge of the ecology of wetlands in the region. Wetland determinations are based on a preponderance of all available information, including in many cases remote sensing and longer term data, not just the field data collected under drought conditions.³

4.1 JURISDICTIONAL FEATURES

4.1.1 Drainage 1

Drainage 1, an unnamed ephemeral drainage, bisects the center of the project site in a northeast to southwest direction. Drainage 1 is a riprap-lined earthen feature that enters the project site through a 60-inch concrete culvert along the northern boundary. The feature was designed to convey urban runoff and stormwater flows generated upstream. Flows within Drainage 1 are conveyed offsite through a 60-inch concrete culvert at the southwestern limits of the project site, crossing underneath Jamacha Boulevard, and continuing approximately one mile downstream to Sweetwater Reservoir. Drainage 1 is approximately 970 linear feet within the project site. The Corps OHWM varied from 4' to 12' in width throughout the project site. Evidence of an OHWM included drift deposits, changes in

³ Corps Sacramento District, Public Notice SPK-2014-00005, *Guidance on Delineations in Drought Conditions*, February 2014.

vegetation type, and presence of a bed and bank. The CDFW jurisdictional streambed varied from 8' to 15' throughout the project site, with associated riparian vegetation established at the northernmost extent of Drainage 1.

Vegetation associated with Drainage 1 consists of a mixture of native and non-native species including arroyo willow (*Salix lasiolepis*), black ash (*Fraxinus nigra*), black locust (*Robinia pseudoacacia*), Brazilian pepper-tree (*Schinus terebinthifolius*), cattails (*Typha* sp.), castor bean (*Ricinus communis*), eucalyptus (*Eucalyptus* sp.), golden wattle (*Acacia longifolia*), Mexican fan palm (*Washingtonia robusta*), mulefat (*Baccharis salicifolia*), salt cedar (*Tamarix ramosissima*), spotted spurge (*Euphorbia maculata*), tall flatsedge (*Cyperus eragrostis*), and tree tobacco (*Nicotiana glauca*). Drainage 1 is dominated by non-native vegetation, with very few patches of native riparian habitat. The downstream end of Drainage 1 contains approximately 200 linear feet of densely vegetated castor bean, severely limiting the establishment of native riparian vegetation in this portion of the feature. Similarly, the upstream extent of Drainage 1 contains an assemblage of primarily non-native vegetation with small stands of native riparian vegetation. The drainage feature had been previously channelized and maintained for several years through persistent vegetation clearing and is dominated by non-native vegetation. Drainage 1 contains five separate cemented road crossings that split the feature into six segments, thus disrupting the hydrologic continuity of the feature.

Due to the presence of hydrophytic vegetation, two soil pits (SP1 and SP2) were dug within the northernmost segment of Drainage 1 to assess the presence of hydric soil conditions (wetland data forms are included in Appendix E). SP1 was dug immediately south of the northern border of the project site due to the presence of emergent cattail (OBL) and tall flatsedge (FACW). Vegetation outside of the OHWM appeared to have been previously trimmed or removed. SP1 was dug to a depth of approximately 18 inches and displayed a matrix color of 10YR 2.5/1 with no visible redox features and no hydric soil indicators. The soil texture consisted of sand and exhibited saturated conditions at a depth of 12 inches. SP2 was dug approximately 10 feet downstream in order to capture a similar representation of hydrophytic species. SP2 was dug to a depth of 4 inches, where a riprap restrictive layer prohibited additional digging, and displayed a matrix color of 10YR 2.5/1 with no visible redox features and no additional hydric soil indicators. The soil texture consisted of sand and did not exhibit saturated conditions.

SP1 contained hydrophytic vegetation and wetland hydrology, but did not contain hydric soil indicators. SP2 contained hydrophytic vegetation, but did not contain wetland hydrology or hydric soil indicators. Therefore, no state or federal wetland features were located in association with Drainage 1.

Section 5 Findings

This delineation has been prepared for SAM-Sweetwater, LLC, in order to delineate the Corps, Regional Board, and CDFW jurisdictional authority within the project site. This report presents RBF's best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies.

5.1 U.S. ARMY CORPS OF ENGINEERS DETERMINATION

5.1.1 Waters of the United States Determination

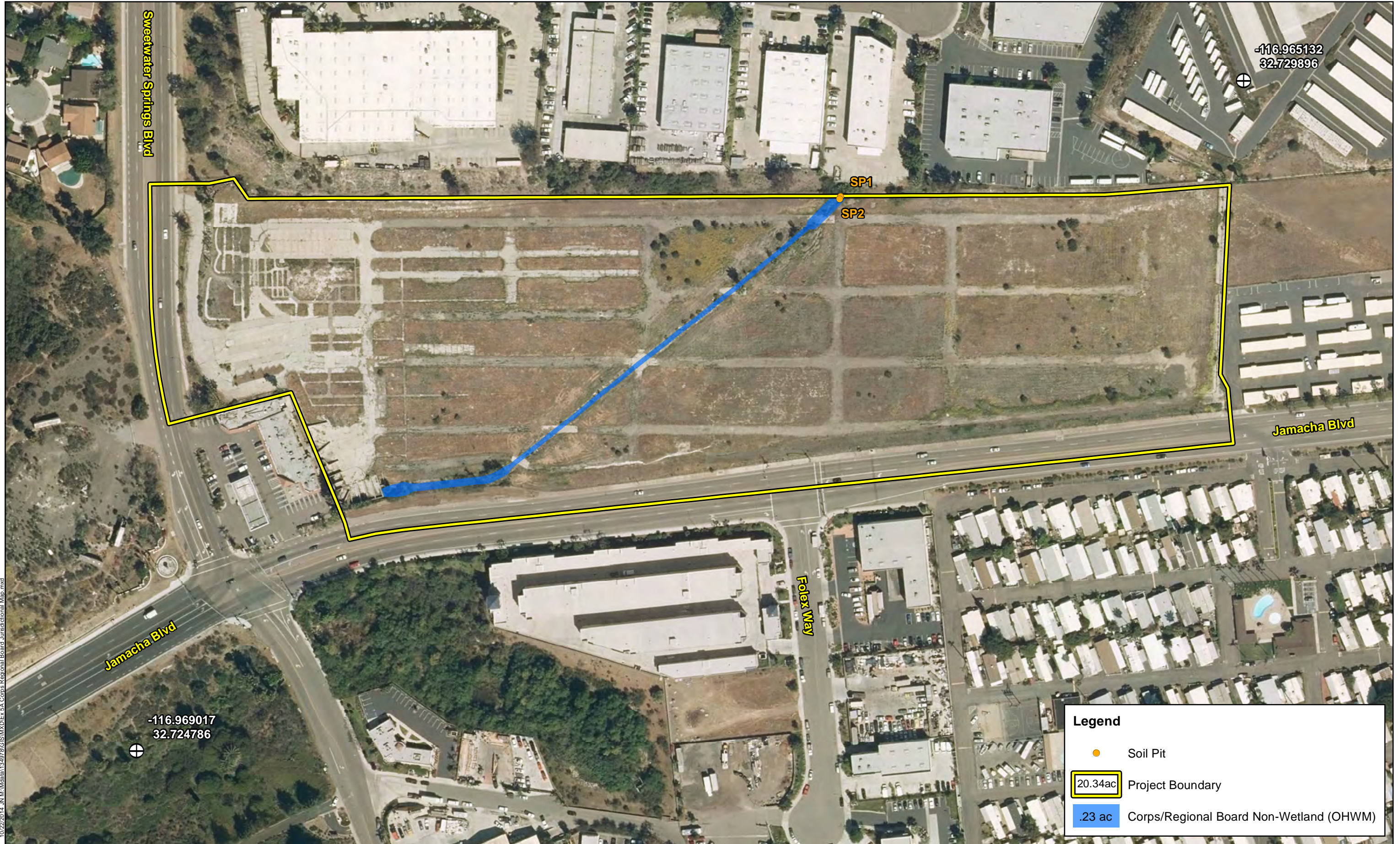
Evidence of an OHWM within Drainage 1 on-site included drift deposits, changes in vegetation type, and presence of a bed and bank. Drainage 1, an unnamed ephemeral stream, enters the project site through a 60-inch concrete culvert, continues as a riprap-lined earthen channel through the project site, exits the project site through a 60-inch concrete culvert, and continues approximately one mile downstream to Sweetwater Reservoir, which drains to the Pacific Ocean. Drainage 1 exhibits a direct hydrological connection to downstream waters and is considered Corps jurisdictional waters of the US. Approximately 0.23-acre of Corps waters of the US was observed onsite. Refer to Table 1 for a summary of the jurisdictional areas on-site, and Exhibit 5, *Jurisdictional Map* for an illustration of on-site jurisdictional areas.

5.1.2 Wetland Determination

A Corps jurisdictional wetland must exhibit three (3) parameters including the presence of hydrologic conditions, hydrophytic vegetation, and hydric soils. At no point during the October 14, 2014 site visit were three (3) parameter wetlands identified within the project site. Therefore, no Corps jurisdictional wetlands are present within the boundaries of the project site.

5.2 REGIONAL WATER QUALITY CONTROL BOARD DETERMINATION

No isolated or Rapanos conditions were observed within the boundaries of the project site; therefore, the Regional Board follows that of Corps jurisdiction.



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Legend	
●	Soil Pit
	20.34ac Project Boundary
	.23 ac Corps/Regional Board Non-Wetland (OHWM)

Source: Eagle Aerial -- 2013

SWEETWATER VILLAGE
 DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS
Corps/Regional Board Jurisdictional Map

5.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE DETERMINATION

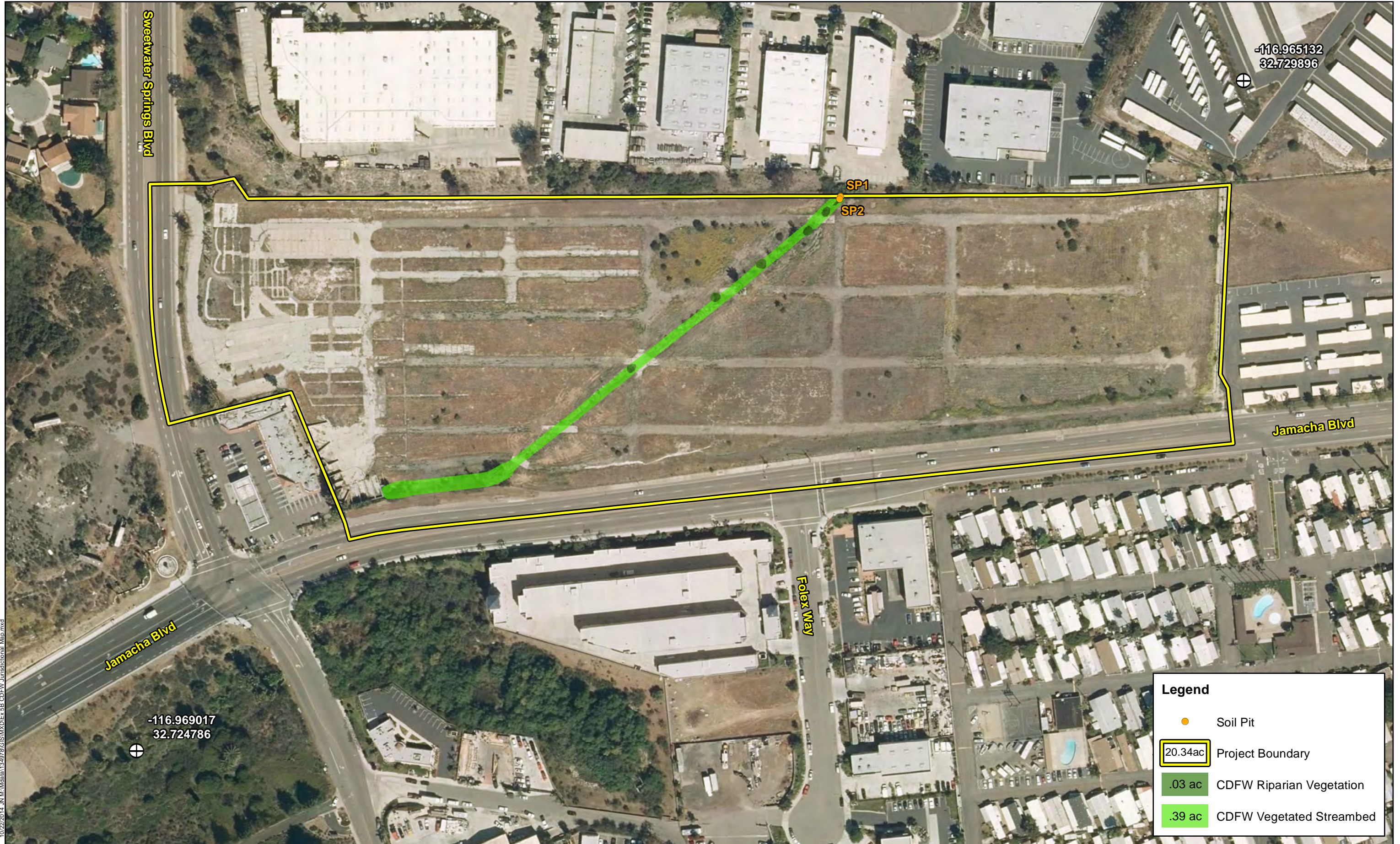
Drainage 1 exhibited a bed and bank and qualifies as CDFW jurisdictional streambed. Based on the results of the field investigation, approximately 0.39-acre of vegetated streambed and 0.03-acre of associated jurisdictional riparian vegetation is located within the project site.

TABLE 1. Jurisdictional Area

Jurisdictional Feature	Corps		Regional Board		CDFW			
	Acreage	Linear Feet	Acreage	Linear Feet	Streambed		Associated Riparian	
					Acreage	Linear Feet	Acreage	Linear Feet
Drainage 1	0.23	954	0.23	954	0.39	954	0.03	--

5.4 SAN DIEGO COUNTY RPO DETERMINATION

The San Diego County RPO states that lands which have wetland attributes solely due to man-made structures (e.g., culverts, ditches, road crossings, or agricultural ponds) shall not be considered jurisdictional resources under the San Diego County RPO, provided that the lands: (1) have negligible biological function or value as wetlands; (2) are small and geographically isolated from other wetland systems; (3) are not vernal pools; and, (4) do not have substantial or locally important populations of wetland dependent sensitive species. Drainage 1 is a riprap-lined earthen feature that enters the project site through a 60-inch concrete culvert along the northern project boundary and exits the site through a 60-inch concrete culvert along the southwest project boundary. The feature was artificially channelized and designed to convey urban runoff and stormwater flows generated upstream. As described in Section 4.1, *Jurisdictional Features*, although the upstream portion of Drainage 1 contains hydrophytic plant species, Drainage 1 contains a predominance of non-native vegetation and does not contain hydric soils. As Drainage 1 provides negligible biological function or value as wetlands, is small and geographically isolated from other wetland systems, is not vernal pools, and does not have substantial or locally important populations of wetland dependent sensitive species, it was determined that the project site does not contain wetlands or floodplains as defined under the San Diego County RPO.



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Legend	
●	Soil Pit
	20.34ac Project Boundary
	.03 ac CDFW Riparian Vegetation
	.39 ac CDFW Vegetated Streambed

Section 6 Regulatory Approval Process

The following is a summary of the various permits, agreements, and certifications required before construction activities take place within the jurisdictional areas.

6.1 U.S. ARMY CORPS OF ENGINEERS

The Corps regulates discharges of dredged or fill materials into WoUS and wetlands pursuant to Section 404 of the CWA. A permit will be required from the Corps Regulatory Branch-Los Angeles District Office prior to commencement of any construction activities within the Corps delineated jurisdictional areas.

It will be necessary for the project applicant to acquire Section 404 authorization under Nationwide Permit (NWP) No. 29 (*Residential Developments*) from the Corps for impacts occurring within Corps delineated jurisdictional areas. The use of NWP 29 is authorized if the proposed project results in the permanent loss of less than ½-acre and 300 linear feet of Corps jurisdiction (non-wetland), though the Corps District Engineer may waive the 300 linear foot limit by issuing a written determination concluding that the discharge will result in minimal adverse effects. Since the proposed project will result in the permanent loss of less than a ½-acre of Corps jurisdiction (non-wetland), and assuming the Corps waives the linear foot limit, it is anticipated that the proposed project can be authorized via Nationwide Permit No. 29: *Residential Developments*.

6.2 REGIONAL WATER QUALITY CONTROL BOARD

The Regional Board regulates discharges to surface waters under the Federal CWA and the California Porter-Cologne Water Quality Control Act. It will be necessary for the project applicant to obtain CWA Section 401 Water Quality Certification from the Regional Board for impacts occurring within Regional Board jurisdictional areas.

6.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

The CDFW regulates alterations to streambed under the California Fish and Game Code. It will be necessary for the project applicant to acquire a Section 1602 Streambed Alteration Agreement from the CDFW for impacts occurring within CDFW jurisdictional areas.

6.4 SAN DIEGO COUNTY PLANNING AND DEVELOPMENT SERVICES

No San Diego County resources included in the RPO were identified within the project site and, therefore, the proposed project is compliant with the San Diego County RPO.

6.5 GLOBAL RECOMMENDATIONS

It is highly recommended that the delineation be forwarded to each of the regulatory agencies for their concurrence. The concurrence/receipt would be valid up to five years and would solidify findings noted within this report.

Section 7 References

The following resources were utilized during preparation of this Delineation of State and Federal Jurisdictional Waters:

California Department of Fish and Game, *Field Guide to Lake and Streambed Alteration Agreements Section 1600-1607 California Fish and Game Code*, January 1994

California Department of Fish and Wildlife, *Lake and Streambed Alteration Program*. (<https://www.wildlife.ca.gov/Conservation/LSA>)

Faber, Phyllis M., *Common Riparian Plants of California*, Pickleweed Press 1996

Faber, Phyllis M., *Common Wetland Plants of Coastal California*, Pickleweed Press 1996

Google Earth, Aerial January 17, 2014

Munsell, *Soil Color Charts*, 2009 Year Revised/2009 Production

Natural Resources Conservation Service, *Hydric Soils List of California*, April 2012 (<http://soils.usda.gov/use/hydric/>)

Robert W. Lichvar. 2013. *The National Wetland Plant List*. 2013 Wetland Ratings. Phytoneuron: in Press. U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH, and BONAP, Chapel Hill, NC

San Diego County, California, Municipal Code § 86.601-608, as amended.

U.S. Army Corps of Engineers, *Practices for Documenting Jurisdiction under Section 404 of the CWA*, Regional Guidance Letter 07-01, June 5, 2007

U.S. Army Corps of Engineers, *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States*, August 2008

U.S. Army Corps of Engineers, *Distribution of Ordinary High Water Mark Indicators and their Reliability in Identifying the Limits of "Waters of the United States" in the Arid Southwestern Channels*, February 2006

U.S. Army Corps of Engineers, *Final Summary Report: Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest*, June 2001

U.S. Army Corps of Engineers, *Los Angeles District Regulatory Program*. (<http://www.spl.usace.army.mil/>)

U.S. Army Corps of Engineers, *Minimum Standards for Acceptance of Preliminary Wetland Delineations*, November 20, 2001

U.S. Army Corps of Engineers, *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*, ed. J.S. Wakeley, R. W. Lichvar, and

C. V. Nobel. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center, 2008

U.S. Army Corps of Engineers, *Special Public Notice: Map and Drawing Standards for the Los Angeles District Regulatory Division*, September 2010

U.S. Army Corps of Engineers, *Updated Datasheet for the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States*, July 2010

U.S. Army Corps of Engineers, *Wetland Delineation Manual*, 1987

U.S. Department of Agriculture, Natural Resources Conservation Service, *Web Soil Survey*. (<http://websoilsurvey.nrcs.usda.gov/app/>)

U.S. Department of Homeland Security, Federal Emergency Management Agency, National Flood Insurance Program, *Flood Insurance Rate No. 06073C1927G*, accessed October 2014

U.S. Geological Survey, 7.5 Minute Series Topographic Quadrangle, *Jamul Mountains, California*, 1955, Photorevised 1971 and 1975

Appendix A Site Photographs



Appendix A – Site Photographs



Photograph 1 – View of culvert inlet immediately upstream of the project boundary in the northern extent of the project site.



Photograph 2 – View of hydrophytic vegetation near northernmost extent of Drainage 1, looking upstream/north toward the culvert inlet in the northern portion of the project site. SP1 was dug on other side of cattails.

Appendix A – Site Photographs



Photograph 3 – View of SP2 within Drainage 1.



Photograph 4 – View of Drainage 1 looking upstream/northeast from the first cement stream crossing after the culvert inlet.

Appendix A – Site Photographs



Photograph 5 – View of Drainage 1 looking downstream/southeast. Cement crossing visible in background.



Photograph 6 – View of in-channel non-native vegetation cluster with one native willow visible in the background, looking downstream/southeast.

Appendix A – Site Photographs



Photograph 7 – View of cement crossing that intersects Drainage 1, looking downstream/south. Eucalyptus trees, Mexican fan palms, castor bean, and other non-native vegetation dominate the feature.



Photograph 8 – View of Drainage 1 looking upstream/northeast. Note eucalyptus, tamarisk, and broom baccharis in channel.

Appendix A – Site Photographs



Photograph 9 – View of Drainage 1 looking upstream/northeast at cement crossing. Tamarisk stand visible in the channel.



Photograph 10 – View of Drainage 1 looking downstream/southeast. Note debris and concrete in channel.

Appendix A – Site Photographs



Photograph 11 – View of spotted spurge (*Euphorbia maculata*) within Drainage 1, looking downstream/southeast.



Photograph 12 – View of castor bean within Drainage 1, looking downstream/south near southern border of project site. Castor bean is the dominant vegetation from this point to the downstream culvert outlet.

Appendix A – Site Photographs



Photograph 13 – View of Drainage 1 looking downstream/southwest near southern border of project site with cement crossing visible in foreground. The feature turns to the west at this point and remains dominated by castor bean.



Photograph 14 – View of mature monoculture of mature castor bean along southern boundary of project site within Drainage 1, looking downstream/southwest

Appendix A – Site Photographs



Photograph 15 – View of Drainage 1 looking downstream/southwest near southern border of project site. Castor bean remains the dominant vegetation.



Photograph 16 – End of Drainage 1 looking downstream/southwest near southern border of project site. Concrete culvert outlet visible in background.

Appendix A – Site Photographs



Photograph 17 – View of non-jurisdictional concrete v-ditch along eastern border of project site, looking upstream/north.

Appendix B Regulations

U.S. ARMY CORPS OF ENGINEERS

Since 1972, the Corps and U.S. Environmental Protection Agency (EPA) have jointly regulated the filling of “waters of the U.S.”, including wetlands, pursuant to Section 404 of the CWA. The Corps has regulatory authority over the discharge of dredged or fill material into the waters of the United States (WoUS) under Section 404 of the CWA. The Corps and EPA define “fill material” to include any “material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of the waters of the United States.” Examples include, but are not limited to, sand, rock, clay, construction debris, wood chips, and “materials used to create any structure or infrastructure in the waters of the United States.” The term WoUS is defined as follows:⁴

- (1) all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (2) all interstate waters including interstate wetlands;
- (3) all waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (i) which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) which are used or could be used for industrial purpose by industries in interstate commerce;
- (4) all impoundments of waters otherwise defined as WoUS under the definition;
- (5) tributaries of waters identified in paragraphs (1)-(4) mentioned above;
- (6) the territorial seas; and,
- (7) wetlands adjacent to the waters identified in paragraphs (1)-(6) mentioned above.

Wetlands, a subset of jurisdictional waters, are jointly defined by the Corps and EPA as *“those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of*

⁴ CWA regulations 33 CFR §328.3(a).

vegetation typically adapted for life in saturated soil conditions.”⁵ Wetlands generally include swamps, marshes, bogs, and similar areas.

The Corps’ regulatory program continues to evolve due to court rulings associated with litigation. Sections 2.1.1 and 2.1.2, below, briefly discuss court cases that have impacted the Corps’ jurisdiction over the past decade. The Corps does not regulate isolated waters and wetlands with no interstate or foreign commerce connection.⁶

The Corps will assert jurisdiction over traditional navigable waters (TNWs) and all wetlands adjacent to TNWs, as well as non-navigable tributaries of TNWs that are relatively permanent waters (RPW) (i.e., the tributaries typically flow year-round or have a continuous flow at least seasonally) and wetlands with a continuous surface connection that directly abut such tributaries; however, the agencies will evaluate jurisdiction over the following features based on a fact-specific analysis to determine whether they have a significant nexus with a TNW:⁷

- Non-navigable tributaries that are not relatively permanent (do not flow typically year-round or have a continuous flow at least seasonally);
- Wetlands adjacent to such tributaries; and,
- Wetlands adjacent to, but that do not directly abut, a relatively permanent non-navigable tributary.

A case-by-case “significant nexus” analysis is conducted to determine whether the waters noted above and their adjacent wetlands are jurisdictional. A “significant nexus” may be found where waters, including adjacent wetlands, affect the chemical, physical, or biological integrity of downstream TNWs. The significant nexus analysis also includes consideration of hydrologic and ecologic factors relative to TNWs.

REGIONAL WATER QUALITY CONTROL BOARD

Applicants for a federal license or permit for activities which may discharge to waters of the United States must seek Water Quality Certification from the state or Indian tribe with jurisdiction.⁸ Such Certification is based on a finding that the discharge will meet water quality standards and other applicable requirements. In California, Regional Boards issue or deny Certification for discharges within their geographical jurisdiction. Water Quality Certification must be based on a finding that the proposed discharge will comply with water

⁵ CWA regulations 33 CFR §328.3(b).

⁶ *Solid Waste Agency of Northern Cook County v. United States Corps of Engineers* (SWANCC)

⁷ *Rapanos v. United States* 547 U.S. 715 (2006) (Rapanos)

⁸ Title 33, United States Code, Section 1341; Clean Water Act Section.

quality standards, which are defined as numeric and narrative objectives in each Regional Board's Basin Plan. Where applicable, the State Water Resources Control Board has this responsibility for projects affecting waters within multiple Regional Boards. The Regional Board's jurisdiction extends to all waters of the State (includes SWANCC and Rapanos conditions) and to all WoUS, including wetlands.

Additionally, the California *Porter-Cologne Water Quality Control Act* gives the State 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 and Rapanos regulatory environment, with respect to the state's authority over isolated and insignificant 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 in the event that there is no Section 404/401 nexus. Although "waste" is partially defined as any waste substance associated with human habitation, the Regional Board also interprets this to include fill discharged into water bodies.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

California Fish and Game Code Sections 1600-1616 establish a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided.

Fish and Game Code Section 1602 requires any person, state, or local governmental agency or public utility to notify the CDFW before beginning any activity that will do one or more of the following:

- (1) substantially obstruct or divert the natural flow of a river, stream, or lake;
- (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or
- (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state. The Fish and Wildlife's regulatory authority extends to include riparian habitat (including wetlands) supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, the CDFW takes jurisdiction to the top of bank of the stream or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently

through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation.

Any of the below criteria could be applicable in determining what constitutes a stream depending on the potential for the proposed activity to adversely affect fish and other stream-dependent wildlife resources.

- (1) The term “stream” can include intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams based on United States Geological Survey (USGS) maps, and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife.
- (2) Biological components of a stream may include aquatic and riparian vegetation, along with all aquatic animals including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system.
- (3) As a physical system, a stream not only includes water (at least on an intermittent or ephemeral basis), but also a bed or channel, a bank and/or levee, in-stream features such as logs or snags, and various flood plains depending on the return frequency of the flood event being considered (i.e., 10, 50, or 100 years, etc.).
- (4) The lateral extent of a stream can be measured in several ways depending on a particular situation and the type of fish or wildlife resource at risk. The following criteria are presented in order from the most inclusive to the least inclusive:
 - (a) The flood plain of a stream can be the broadest measurement of a stream’s lateral extent depending on the return frequency of the flood event used. For most flood control purposes, the 100-year flood plain exists for many streams. However, the 100-year flood plain may include significant amounts of upland or urban habitat and therefore may not be appropriate in many cases.
 - (b) The outer edge of riparian vegetation is generally used as the line of demarcation between riparian and upland habitats and is therefore a reasonable and identifiable boundary for the lateral extent of a stream. In most cases, the use of this criterion should result in protecting the fish and wildlife resources at risk.
 - (c) Most streams have a natural bank which confines flows to the bed or channel except during flooding. In some instances, particularly on smaller streams or dry washes with little or no riparian habitat, the bank should be used to mark the lateral extent of a stream.

- (d) A levee or other artificial stream bank would also be used to mark the lateral extent of a stream. However, in many instances, there can be extensive areas of valuable riparian habitat located behind a levee.

SAN DIEGO COUNTY PLANNING AND DEVELOPMENT SERVICES

The San Diego County Board of Supervisors finds that the unique topography, ecosystems and natural characteristics of the County are fragile, irreplaceable resources that are vital to the general welfare of all residents; that special controls on development must be established for the County's wetlands, floodplains, steep slopes, sensitive biological habitats, and prehistoric and historic sites; and that present methods adopted by the County must be strengthened in order to guarantee the preservation of these sensitive lands. San Diego County Planning and Development administers the San Diego County Resource Protection Ordinance (RPO) as a means of achieving the above goals.

"Wetlands" are identified as all lands which are transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or where the land is covered by water. All lands having one or more of the following attributes are "wetlands":

- 1) At least periodically, the land supports predominantly hydrophytes (plants whose habitat is water or very wet places);
- 2) The substratum is predominantly undrained hydric soil; or
- 3) The substratum is non-soil and is saturated with water or covered by water at some time during the growing season of each year.

Additionally, the following shall not be considered "wetlands":

- 1) Lands which have attribute(s) specified above solely due to man-made structures (e.g., culverts, ditches, road crossings, or agricultural ponds), provided that the Director of Planning and Land Use determines that they:
 - a. Have negligible biological function or value as wetlands;(ii) Are small and geographically isolated from other wetland systems;
 - b. Are small and geographically isolated from other wetland systems;
 - c. Are not vernal pools; and,
 - d. Do not have substantially or locally important populations of wetland dependent sensitive species.
- 2) Lands that have been degraded by past legal land disturbance activities, to the point that they meet the following criteria as determined by the Director of Planning and Land Use:
 - a. Have negligible biological function or value as wetlands even if restored to the extent feasible; and,

- b. Do not have substantial or locally important populations of wetland dependent sensitive species.

“Floodplains” are defined as the relatively flat area of low lands adjoining and including the channel of a river, stream watercourse, bay, or other body of water which is subject to inundation by the flood waters of the 100 year frequency flood as shown on floodplain maps approved by the Board of Supervisors.

Appendix C Methodology

WATERS OF THE U.S. AND STATE WATERS

The limits of the Corps' jurisdiction in non-tidal waters extend to the OHWM, which 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 soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."⁹ An OHWM can be determined by the observation of a natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; presence of litter and debris; wracking; vegetation matted down, bent, or absent; sediment sorting; leaf litter disturbed or washed away; scour; deposition; multiple observed flow events; bed and banks; water staining; and/or change in plant community. The Regional Board shares the Corps' jurisdictional methodology, unless SWANCC or Rapanos conditions are present. In the latter case, the Regional Board considers such drainages to be jurisdictional waters of the State. The CDFW's jurisdiction extends to the top of bank of the stream/channel or to the limit (outer dripline) of the adjacent riparian vegetation.

WETLANDS

For this project location, Corps jurisdictional wetlands are delineated using the methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Corps, 2008). This document is one of a series of Regional Supplements to the 1987 Corps Wetland Delineation Manual (Corps Manual). According to the Corps Manual, identification of wetlands is based on a three-parameter approach involving indicators of hydrophytic vegetation, hydric soil, and wetland hydrology. In order to be considered a wetland, an area must exhibit at least minimal characteristics within these three (3) parameters. The Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Arid West Region. In the field, vegetation, soils, and evidence of hydrology have been examined using the methodology listed below and documented on Corps' wetland data sheets, when applicable. It should be noted that both the Regional Board and the CDFW jurisdictional wetlands encompass those of the Corps.

Vegetation

Nearly 5,000 plant types in the United States may occur in wetlands. These plants, often referred to as hydrophytic vegetation, are listed in regional publications by the U.S. Fish and Wildlife Service (USFWS). In general, hydrophytic vegetation is present when the plant community is dominated by species that can tolerate prolonged inundation or soil saturation during growing season. Hydrophytic vegetation decisions are based on the assemblage

⁹ CWA regulations 33 CFR §328.3(e).

of plant species growing on a site, rather than the presence or absence of particular indicator species. Vegetation strata are sampled separately when evaluating indicators of hydrophytic vegetation. A stratum for sampling purposes is defined as having 5 percent or more total plant cover. The following vegetation strata are recommended for use across the Arid West:

- ◆ *Tree Stratum*: Consists of woody plants 3 inches or more in diameter at breast height (DBH), regardless of height;
- ◆ *Sapling/shrub stratum*: Consists of woody plants less than 3 inches DBH, regardless of height;
- ◆ *Herb stratum*: Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size; and,
- ◆ *Woody vines*: Consists of all woody vines, regardless of size.

The following indicator is applied per the test method below.¹⁰ Hydrophytic vegetation is present if any of the indicators are satisfied.

Indicator 1 – Dominance Test

Cover of vegetation is estimated and is ranked according to their dominance. Species that contribute to a cumulative total of 50% of the total dominant coverage, plus any species that comprise at least 20% (also known as the “50/20 rule”) of the total dominant coverage, are recorded on a wetland data sheet. Wetland indicator status in California (Region 0) is assigned to each species using the *National Wetland Plant List, version 2.4.0* (Corps, 2012). If greater than 50% of the dominant species from all strata were Obligate, Facultative-wetland, or Facultative species, the criteria for wetland vegetation is considered to be met. Plant indicator status categories are described below:

- ◆ *Obligate Wetland (OBL)*: Plants that almost always occur in wetlands;
- ◆ *Facultative Wetland (FACW)*: Plants that usually occur in wetlands, but may occur in non-wetlands;
- ◆ *Facultative (FAC)*: Plants that occur in wetlands and non-wetlands;

¹⁰ Although the Dominance Test is utilized in the majority of wetland delineations, other indicator tests may be employed. If one indicator of hydric soil and one primary or two secondary indicators of wetland hydrology are present, then the Prevalence Test (Indicator 2) may be performed. If the plant community satisfies the Prevalence Test, then the vegetation is hydric. If the Prevalence Test fails, then the Morphological Adaptation Test may be performed, where the delineator analyzes the vegetation for potential morphological features.

- ◆ *Facultative Upland (FACU)*: Plants that usually occur in non-wetlands, but may occur in wetlands; and,
- ◆ *Obligate Upland (UPL)*: Plants that almost never occur in wetlands.

Hydrology

Wetland hydrology indicators are presented in four (4) groups, which include:

Group A – Observation of Surface Water or Saturated Soils

Group A is based on the direct observation of surface water or groundwater during the site visit.

Group B – Evidence of Recent Inundation

Group B consists of evidence that the site is subject to flooding or ponding, although it may not be inundated currently. These indicators include water marks, drift deposits, sediment deposits, and similar features.

Group C – Evidence of Recent Soil Saturation

Group C consists of indirect evidence that the soil was saturated recently. Some of these indicators, such as oxidized rhizopheres surrounding living roots and the presence of reduced iron or sulfur in the soil profile, indicate that the soil has been saturated for an extended period.

Group D – Evidence from Other Site Conditions or Data

Group D consists of vegetation and soil features that indicate contemporary rather than historical wet conditions, and include shallow aquitard and the FAC-neutral test.

If wetland vegetation criteria is met, the presence of wetland hydrology is evaluated at each transect by recording the extent of observed surface flows, depth of inundation, depth to saturated soils, and depth to free water in the soil test pits. The lateral extent of the hydrology indicators are used as a guide for locating soil pits for evaluation of hydric soils and jurisdictional areas. In portions of the stream where the flow is divided by multiple channels with intermediate sand bars, the entire area between the channels is considered within the OHWM and the wetland hydrology indicator is considered met for the entire area.

Soils

A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper 16-20

inches.¹¹ The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. It should also be noted that the limits of wetland hydrology indicators are used as a guide for locating soil pits. If any hydric soil features are located, progressive pits are dug moving laterally away from the active channel until hydric features are no longer present within the top 20 inches of the soil profile.

Once in the field, soil characteristics are verified by digging soil pits along each transect to an excavation depth of 20 inches; in areas of high sediment deposition, soil pit depth may be increased. Soil pit locations are usually placed within the drainage invert or within adjoining vegetation. At each soil pit, the soil texture and color are recorded by comparison with standard plates within a *Munsell Soil Chart* (2009). Munsell Soil Charts aid in designating color labels to soils, based by degrees of three simple variables – hue, value, and chroma. Any indicators of hydric soils, such as organic accumulation, iron reduction, translocation, and accumulation, and sulfate reduction, are also recorded.

Hydric soil indicators are present in three groups, which include:

All Soils

“All soils” refers to soils with any United States Department of Agriculture (USDA) soil texture. Hydric soil indicators within this group include histosol, histic epipedon, black histic, hydrogen sulfide, stratified layers, 1 cm muck, depleted below dark surface, and thick dark surface.

Sandy Soils

“Sandy soils” refers to soil materials with a USDA soil texture of loamy fine sand and coarser. Hydric soil indicators within this group include sandy mucky mineral, sandy gleyed matrix, sandy redox, and stripped matrix.

Loamy and Clayey Soils

“Loamy and clayey soils” refers to soil materials with a USDA soil texture of loamy very fine sand and finer. Hydric soil indicators within this group include loamy mucky mineral, loamy gleyed matrix, depleted matrix, redox dark surface, depleted dark surface, redox depressions, and vernal pools.

¹¹ According to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (Corps 2008), growing season dates are determined through on-site observations of the following indicators of biological activity in a given year: (1) above-ground growth and development of vascular plants, and/or (2) soil temperature.

SWANCC WATERS

The term “isolated waters” is generally applied to waters/wetlands that are not connected by surface water to a river, lake, ocean, or other body of water. In the presence of isolated conditions, the Regional Board and CDFW take jurisdiction through the application of the OHWM/streambed and/or the 3-parameter wetland methodology utilized by the Corps.

RAPANOS WATERS

The Corps will assert jurisdiction over non-navigable, not relatively permanent tributaries and their adjacent wetlands where such tributaries and wetlands have a significant nexus to a TNW. The flow characteristics and functions of the tributary itself, in combination with the functions performed by any wetlands adjacent to the tributary, determine if these waters/wetlands significantly affect the chemical, physical, and biological integrity of the TNWs. Factors considered in the significant nexus evaluation include:

- (1) The consideration of hydrologic factors including, but not limited to, the following:
 - volume, duration, and frequency of flow, including consideration of certain physical characteristics of the tributary
 - proximity to the TNW
 - size of the watershed average annual rainfall
 - average annual winter snow pack
- (2) The consideration of ecologic factors including, but not limited to, the following:
 - the ability for tributaries to carry pollutants and flood waters to TNWs
 - the ability of a tributary to provide aquatic habitat that supports a TNW
 - the ability of wetlands to trap and filter pollutants or store flood waters
 - maintenance of water quality

Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow) and ditches (including roadside ditches) excavated wholly in, and draining only, uplands and that do not carry a relatively permanent flow of water, are generally not considered jurisdictional waters.

In the presence of Rapanos drainage conditions, the Regional Board and CDFW take jurisdiction via the OHWM and/or the 3-parameter wetland methodology utilized by the Corps.

Appendix D Documentation

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodway management.

Coastal Base Flood Elevations (CBFEs) shown on this map apply only to landward of 0.7 North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodway management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 24 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Universal Transverse Mercator (UTM) Zone 11. The horizontal datum was NAD83. GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences as map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
NODAS, NWS12
National Geodetic Survey
SIOC-3, #0022
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this FIRM was provided in digital format by the USDA National Agriculture Imagery Program (NAIP). This information was photogrammetrically compiled at a scale of 1:24,000 from aerial photography dated 2009.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydrologic data) may reflect stream channel delineations that differ from what is shown on this map.

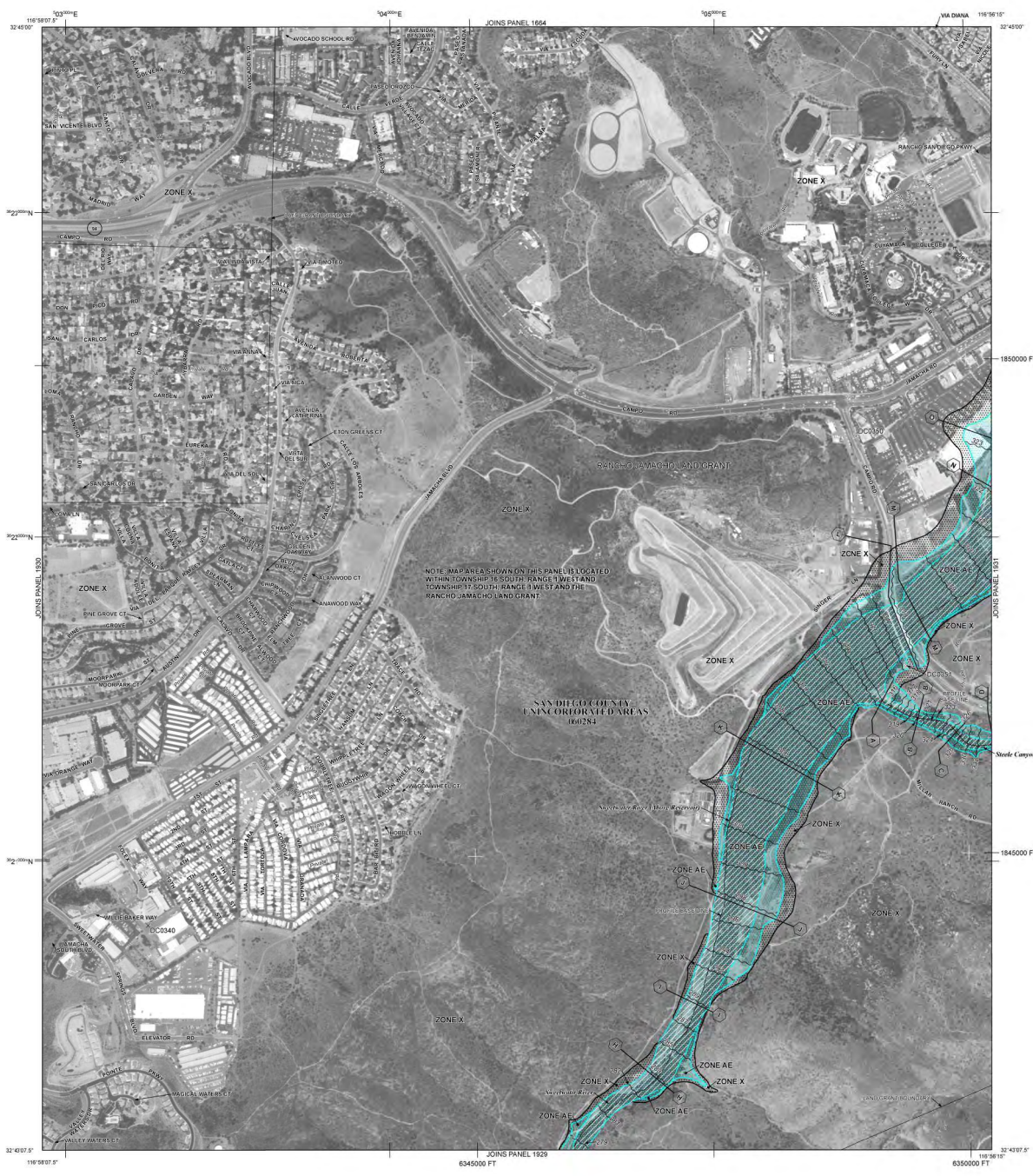
Corporate limits shown on this map are based on the best data available at the time of publication. Insurance changes due to annexations or de-annexations may have occurred after this map was published; map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels, community map repository addresses, and a Listing of Communities with Containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-877-FEMA-MAP (1-877-336-2627) for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://www.fema.gov/>.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/>.

The "profile base line" depicted on this map represents the hydraulic modeling baseline that matches the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AO, AH, AR, AV, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); Average depths determined; For areas of alluvial fan flooding, velocities are determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently abandoned. Zone AR indicates that the former flood control system is being removed to provide protection from the 1% annual chance or greater flood.

ZONE AV Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with discharge areas less than 1 square mile, and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone V boundary
- CBRS and OPA boundary
- Boundary defining Special Flood Hazard Area Zones and boundary defining Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
- Base Flood Elevation and value, elevation in feet* (EL 967)
- Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988.

Cross section line:
 (A) - (B)
 87°07'30" 32°22'30"
 9390000 FT
 6930000 FT
 6X5516
 1 MI 5'

MAP REPOSITORIES
 Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COMMUNITY FLOOD INSURANCE RATE MAP
 June 16, 1997

EFFECTIVE DATES OF REVISIONS TO THIS PANEL:
 May 16, 2012 - To update corporate limits, to add roads, and road names to incorporate previously issued Letters of Map Change, and to update map elevations to North American Vertical Datum of 1988.

For community map revision history prior to countywide mapping, refer to the Community Map History page located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6625.

MAP SCALE 1" = 500'

0 100 200 300 FEET
 0 100 200 300 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1927G

FIRM
FLOOD INSURANCE RATE MAP
SAN DIEGO COUNTY,
CALIFORNIA
AND INCORPORATED AREAS

PANEL 1927 OF 2375
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY	NUMBER	PANEL	STATUS
SAN DIEGO COUNTY	06073C	1927	CE

Refer to User's Manual for Map Number when status should be used when showing map status. Community Number shown should be used on insurance applications for the subject community.

MAP NUMBER
 06073C1927G
 MAP REVISED
 MAY 16, 2012

Federal Emergency Management Agency



U.S. Fish and Wildlife Service National Wetlands Inventory

Sweetwater Village Project

Oct 16, 2014



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

Riparian

- Herbaceous
- Forested/Shrub

Riparian Status

- Digital Data

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

Appendix E Wetland Data Forms
