SAN DIEGO GAS & ELECTRIC COMPANY AND SOUTHERN CALIFORNIA GAS COMPANY'S

PIPELINE SAFETY & RELIABILITY PROJECT
PRELIMINARY WETLANDS AND WATERS ASSESSMENT ADDENDUM

Prepared for:

SDGE
A Sempra Energy utility®

SoCalGas
A Sempra Energy utility

Prepared by:

INSIGNIA ENVIRONMENTAL

September 2017

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1 – INTRODUCTION

San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (SoCalGas)[1] filed a Proponent's Environmental Assessment (PEA) on September 30, 2015, and a PEA Supplement on March 20, 2016, for a Certificate of Public Convenience and Necessity to construct and operate the proposed Pipeline Safety & Reliability Project (Proposed Project). As part of the PEA, the Applicants submitted a Preliminary Wetlands and Waters Assessment in September 2015. Since that time, the California Public Utilities Commission (CPUC) requested hydrologic resources data for three route segment alternatives and one alternative route.

The purpose of this Preliminary Wetlands and Waters Alternative Addendum (Addendum) is to satisfy the CPUC's request for additional hydrologic resources surveys. The CPUC requested hydrologic resources data for the following three route segment alternatives:

- Kearny Villa Road,
- West of Aqueduct Road, and
- Spring Canyon Firebreak.

The CPUC also requested data for the Scripps Poway Parkway, Sycamore Canyon, and Santee portions of the Rainbow to Santee Non-Miramar Alternative (Non-Miramar Alternative).

Insignia Environmental (Insignia) conducted a preliminary assessment of wetlands and waters for the three route segment alternatives and one alternative route within an Addendum Survey Area. The Addendum Survey Area included all route segment alternatives and the Non-Miramar Alternative, and an approximately 150-foot buffer on each side of these components. In total, the Addendum Survey Area covered approximately 1,055 acres. Insignia assessed areas that may fall within the following jurisdictions:

- the United States (U.S.) Army Corps of Engineers (USACE), pursuant to Section 404 of the Clean Water Act (CWA);

- the Regional Water Quality Control Board (RWQCB), pursuant to the Porter-Cologne Water Quality Control Act (California Water Code, Chapter 2, § 13050) or Section 401 of the CWA; and

- the California Department of Fish and Wildlife (CDFW), pursuant to Section 1600 of the California Fish and Game Code.

This Addendum summarizes the field methods and results of Insignia's survey of jurisdictional waters and wetlands.

[1] SDG&E and SoCalGas are hereinafter referred to as "the Applicants."

2 – PROJECT DESCRIPTION

2.0 PROJECT OVERVIEW

The Proposed Project involves construction, operation, and maintenance of an approximately 47-mile-long, 36-inch-diameter natural gas transmission pipeline that will carry natural gas from the existing Rainbow Metering Station to the pipeline's terminus on Marine Corps Air Station (MCAS) Miramar. A more detailed description of the Proposed Project is provided in the PEA and PEA Supplement. The location of the alternative route segments and route alternative surveyed in this Addendum are described in the sections that follow.

2.1 PROJECT LOCATION AND SETTING

The Addendum Survey Area is located in San Diego County, California; and it crosses the cities of Poway, San Diego, and Santee, as well as unincorporated areas of San Diego County. The Addendum Survey Area is located within three U.S. Geological Survey (USGS) 7.5-minute series quadrangles, including the Poway, La Mesa, and San Vicente Reservoir quadrangles.

The Addendum Survey Area is comprised of several smaller survey areas for proposed components, which are described in the following subsections and presented in Table 1: Addendum Survey Area Locations and Area and Figure 1: Alternatives Overview Map.

Table 1: Addendum Survey Area Locations and Area

Survey Area	Location	Approximate Size (acres)
Route Segment Alternatives		
Kearny Villa Road	Milepost (MP) 43.0 west along Pomerado Road, west under Interstate (I-) 15, and south along Kearny Villa Road to an existing pipe connection within MCAS Miramar	156.00
West of Aqueduct Road	West of the Proposed Project route within MCAS Miramar	70.50
Spring Canyon Firebreak	East along Spring Canyon Road, south along an unnamed dirt road that west of Spring Canyon to State Route (SR-) 52	277.96
Alternative		
Non-Miramar Alternative	Scripps Poway Parkway to the City of Santee	550.37
TOTAL		**1,054.83**

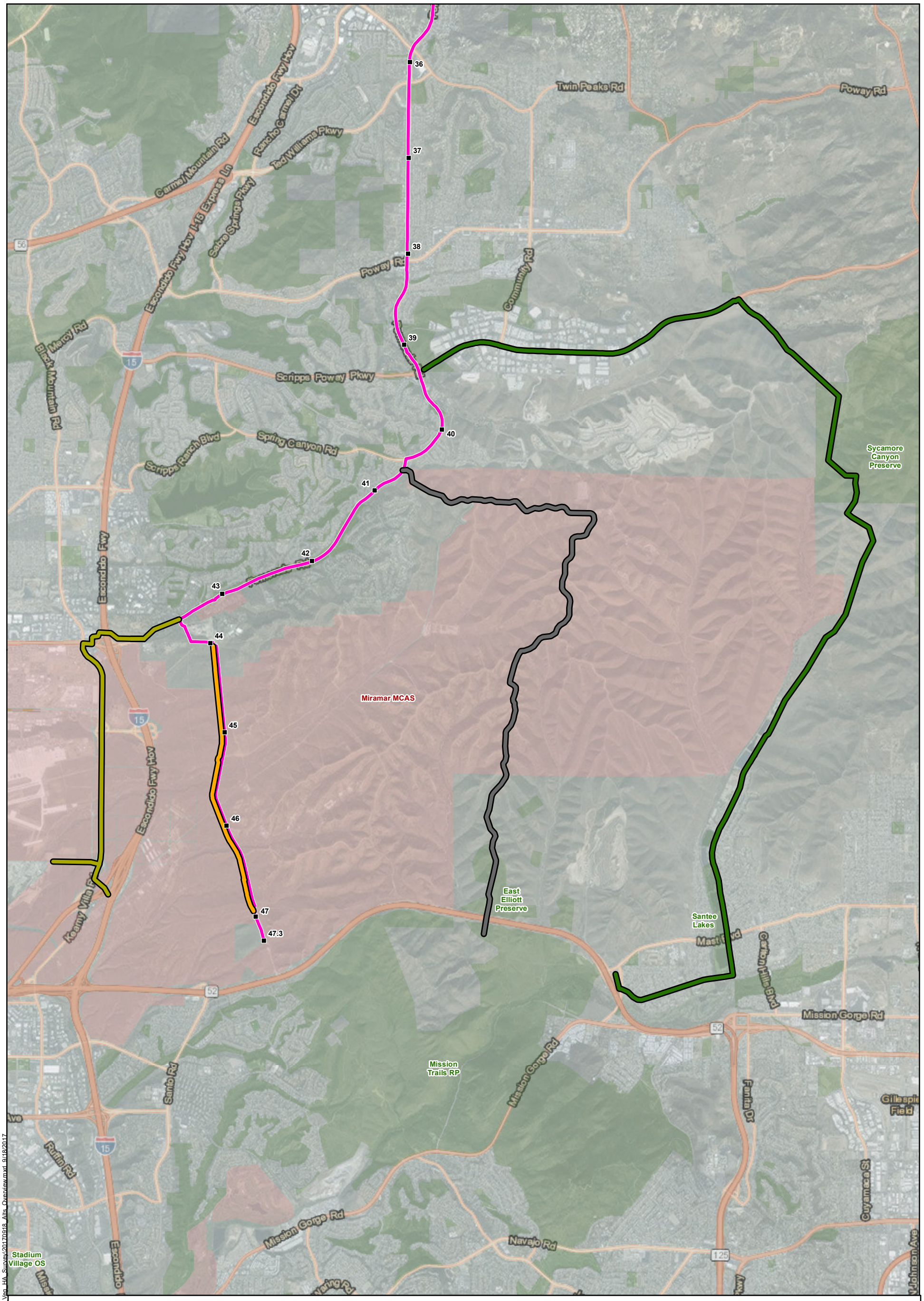

Figure 1: Alternatives Overview — **Pipeline Safety & Reliability Project**

- Milepost
- Proposed Project Route

Alternative Route
- Non-Miramar

Route Segment Alternatives
- Kearny Villa Road
- West of Aqueduct Road
- Spring Canyon Firebreak

- Parks
- Military
- Bureau of Indian Affairs

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SoCalGas — A Sempra Energy utility

SDGE — A Sempra Energy utility

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2.1.0 Route Segment Alternatives

Kearny Villa Road Route Segment Alternative

The Kearny Villa Road Route Segment Alternative Survey Area is approximately four miles in length, and crosses the City of San Diego and unincorporated San Diego County. The route segment alternative leaves the Proposed Project near MP 43.0, follows Pomerado Road west, and then travels northwest through private property. The route segment alternative then heads west under I-15 to Kearny Mesa Road, south to Miramar Road, and then west until its intersection with Kearny Villa Road. It travels south along Kearny Villa Road, then southeast through MCAS Miramar to an existing pipe connection. The alternative terminus veers west off of Kearny Villa Road at Harris Plant Road. The proposed workspace for this route segment alternative is primarily within Kearny Villa Road. Due to chain-link fences and Kearny Villa Road's location adjacent to MCAS Miramar, the width of the Kearny Villa Road Route Segment Alternative Survey Area is smaller and not consistent like the other route segment alternatives.

West of Aqueduct Route Segment Alternative

The West of Aqueduct Road Route Segment Alternative is approximately 100 feet west of the Proposed Project route that travels through MCAS Miramar. The approximately 7.5-mile route segment alternative begins on the northern boundary of MCAS Miramar that is west of Aqueduct Road and includes a portion of the University of California, San Diego's Elliott Chaparral Reserve. The proposed workspace for this route segment alternative is primarily within undeveloped native vegetation.

Spring Canyon Firebreak Route Segment Alternative

The Spring Canyon Firebreak Route Segment Alternative Survey Area is approximately seven miles in length. The route segment alternative leaves the Proposed Project near MP 40.3, travels west along Spring Canyon Road for approximately 2.2 miles, and then heads south along an unnamed, unpaved road for approximately 4.8 miles. The route segment alternative continues through Mission Trails Regional Park and south of SR-52, but the survey area ends just north of SR-52.[2] The proposed workspace for this route segment alternative is primarily within paved and unpaved roads.

2.1.1 Alternative

Rainbow to Santee Non-Miramar Alternative

The Non-Miramar Alternative would follow the northern portion of the Proposed Project from the Rainbow Metering Station to the north of MCAS Miramar, where the route would veer to the east, avoiding MCAS Miramar and traveling south until its termination in the City of Santee.

The Addendum Survey Area includes an approximately 13-mile Non-Miramar Alternative segment[3] from Scripps Poway Parkway to its termination in the City of Santee. The segment begins at the intersection of Pomerado Road and Scripps Poway Parkway, travels along Scripps

[2] The portion of the route segment alternative that travels south of SR-52 was not surveyed in 2017. In addition, Insignia surveyed the northern two-thirds of the route segment alternative in 2015 and the southern one-third in 2017.

[3] The 2017 segment was updated since the PEA's submittal in 2015.

Poway Parkway for approximately 3.5 miles, and then heads southeast along Sycamore Canyon Road for approximately 0.4 mile. The segment then travels south over steep, rough terrain through Goodan Ranch Sycamore Canyon Preserve,[4] then south along Fanita Parkway and east of Santee Lakes to Carlton Oaks Drive. The segment heads west along Carlton Oaks Drive beyond West Hills Parkway and into an undeveloped, non-native field east of SR-52, where it ends at a pipeline terminus in the City of Santee. This segment would cross approximately six miles of privately owned land.

3 – METHODS

3.0 WETLANDS AND WATERS ASSESSMENT

The wetlands and water assessment within the Addendum Survey Area was conducted between May 20 and July 12, 2017. Insignia biologists conducted the wetlands and waters assessment per the timetable outlined in Table 2: Preliminary Wetlands and Waters Assessment Timetable. The biologists followed the methods described in Section 4 – Methods in the Proposed Project's Preliminary Wetlands and Waters Assessment. In addition, Insignia biologists evaluated vernal pools, as described in the following sections.

Table 2: Preliminary Wetlands and Waters Assessment Timetable

Insignia Biologist(s)	Date	Alternative(s) Surveyed
Nick Wagner and Keelie Rocker	May 20, 2017	Spring Canyon Firebreak Route Segment Alternative
Nick Wagner and Melissa Tu	June 13, 2017	Non-Miramar Alternative
Nick Wagner	June 27, 2017	Kearny Villa Road Route Segment Alternative
Nick Wagner and Melissa Tu	June 28, 2017	West of Aqueduct Road Route Segment Alternative
Nick Wagner and Melissa Tu	July 5, 2017	Non-Miramar Alternative
Nick Wagner and Jesse Byrd	July 10, 2017	Kearny Villa Road Route Segment Alternative
Nick Wagner and Melissa Tu	July 11, 2017	Non-Miramar Alternative
Nick Wagner and Melissa Tu	July 12, 2017	Non-Miramar Alternative

3.0.0 Vernal Pool Mapping

Biologists also mapped potential vernal pools under the jurisdiction of CDFW. Due to the limitations discussed in Section 4.1.1 Wetlands Mapping in the Preliminary Wetlands and Waters Assessment dated September 2015, no soil pits were dug in vernal pools. Therefore, vernal pool mapping relied exclusively on the presence of hydrophytic vernal pool vegetation. The following plant species were considered vernal pool indicators:

- *Callichte marginata*

[4] The Goodan Ranch Sycamore Canyon Preserve is within a conservation easement.

- *Crassula aquatica*
- *Deschampsia danthonioides*
- *Downingia cuspidate*
- *Elatine californica*
- *Epilobium campestre*
- *Eryngium aristulatum*
- *Isoetes howellii*
- *Isoetes orcuttii*
- *Marsilea vestita*
- *Malvella leprosa*
- *Myosurus minimus*
- *Navarettia fossalis*
- *Orcuttia californica*
- *Phalaris lemonii*
- *Pilularia americana*
- *Plagiobothrys acanthocarpus*
- *Plantago elongata*
- *Pogogyne abramsii*
- *Pogogyne nudiuscula*
- *Psilocarphus brevissimus*
- *Triglochin scilloides*

No minimum mapping unit for vernal pools was established; all potential vernal pools that Insignia biologists encountered were mapped. Submeter-accurate Global Positioning System data were taken to demarcate the boundary between upland and vernal pools.

4 – SURVEY RESULTS

4.0 ENVIRONMENTAL SETTING

The Addendum Survey Area is located within the southwestern portion of the Peninsular Ranges' geomorphic province in the South Coast Floristic Province (Jepson eFlora 2017) and ranges in elevation from 300 to 1,140 feet above mean sea level. From 1981 to 2010, the Addendum Survey Area received an average annual precipitation of approximately 10.4 inches, with average temperatures ranging from 58 to 72 degrees Fahrenheit (National Oceanic and Atmospheric Administration [NOAA] 2017). The Addendum Survey Area includes a large number of diverse upland and wetland/riparian vegetation communities, along with large, developed areas comprising the cities of San Diego and Poway. Topography, hydrology and vegetation located in the Addendum Survey Area are summarized in the subsections that follow.

4.0.0 Topography and Hydrology

The Addendum Survey Area is located in the San Diego River Hydrologic Basin Region (San Diego Region), which covers approximately 3,900 square miles in the southwestern portion of California and includes the majority of San Diego County and portions of Riverside and Orange counties. The San Diego Region is divided into 11 hydrologic units (HUs), 54 hydrologic areas

(HAs), and 147 hydrologic subareas (HSAs). As defined in the San Diego RWQCB's Water Quality Control Plan for the San Diego Basin; HUs encompass the entire watershed of one or more streams, HAs encompass major tributaries and/or major groundwater basins within an HU; and HSAs encompass major subdivisions of HAs, including both water-bearing and non-water-bearing formations. Each HU is identified by a unique code. The Addendum Survey Area is situated within the following two HUs, which are listed in Table 3: Hydrologic Units, Areas, and Subareas within the Addendum Survey Area with their HU codes.

Table 3: Hydrologic Units, Areas, and Subareas within the Addendum Survey Area

HU	HA(s)	HSA(s)
Peñasquitos (906.00)	Miramar Reservoir (906.1)	Undefined
	Poway (906.2)	Undefined
	Miramar (906.4)	Undefined
San Diego (907.00)	Lower San Diego (907.1)	Mission San Diego (907.11)
		Santee (907.12)

Source: San Diego RWQCB 1994

Attachment A: Hydrologic Region Map depicts the HUs, HAs, and HSAs that fall within the Addendum Survey Area. Table 3: Hydrologic Units, Areas, and Subareas within the Addendum Survey Area lists the HUs, HAs, and HSAs that occur within the Proposed Project area. Each of the HUs within the Addendum Survey Area ultimately flows west to the Pacific Ocean, which ranges from seven to 16 miles from the Addendum Survey Area, depending on the location.

The Addendum Survey Area crosses several named rivers, creeks, and other ephemeral waterbodies, including San Clemente Canyon Creek, the upper reaches of Rose Creek, and Clark Canyon Creek. In addition, the Addendum Survey Area crosses numerous unnamed creeks, drainages, and wetlands, as described in Section 4.1 Wetland and Water Features. Erosional features and man-made conveyance channels (e.g., roadside ditches) also convey water through the Addendum Survey Area. Natural hydrologic sources within the Addendum Survey Area include groundwater, snowmelt, precipitation, and surface runoff from adjacent uplands.

4.0.1 Vegetation Communities

The Addendum Survey Area includes a diversity of upland and wetland/riparian vegetation communities. Diegan coastal sage scrub, coast live oak woodlands, and chaparral communities comprise large portions of the Addendum Survey Area; and large, developed areas comprise the cities of San Diego, Poway, and Santee. Approximately 288.3 acres (26 percent) of the Addendum Survey Area are within urban/developed areas. A total of 23 vegetation communities were identified within the Addendum Survey Area, as depicted in Attachment A: Vegetation Communities within the Biological Resources Technical Report Addendum. Eleven upland vegetation communities and 12 wetland/riparian communities occur within the Addendum Survey Area. Descriptions of each vegetation community are provided in Section 5.1 General Vegetation Communities in the Proposed Project's Biological Resources Technical Report.

The vegetation classification system that was used conforms to Oberbauer et al. (2008). Vegetation community descriptions are also derived from Oberbauer et al. (2008), with additional information on wildlife habitat preferences from the CDFW's Wildlife Habitats – California Wildlife Habitat Relationship System (2017). A complete list of plant species observed within the Addendum Survey Area is provided in Attachment D: Plant Species Observed in the Special-Status Plant Species Survey Report Addendum. Nomenclature used for plant names follows *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012). Nomenclatural changes made after the publication date of *The Jepson Manual* follow the Jepson eFlora (2015) website.

4.1 WETLAND AND WATER FEATURES

As summarized in Table 4: Potential Jurisdictional Hydrological Features within the Addendum Survey Area and as described further in the following subsections, a total of approximately 19.62 acres of potential USACE-jurisdictional areas, approximately 20.14 acres of RWQCB-jurisdictional areas, and approximately 42.55 acres of potential CDFW-jurisdictional areas were mapped within the Addendum Survey Area.

Potentially jurisdictional hydrologic features with the Addendum Survey Area are depicted in Attachment B: Wetland and Waters Assessment Map. Attachment C: Wetland and Water Survey Results lists the unique feature identification number, feature type, stream class, ordinary high water mark (OHWM) width and depth, top of bank (TOB) width and depth, and the length and acreage for each feature observed within the Addendum Survey Area. Attachment D: Drainage Photographic Record presents photographs of drainage features observed within the Addendum Survey Area.

Small portions of Santee Lakes and water treatment ponds operated by the Padre Dam Municipal Water District fell within the far western edge of the Non-Miramar Alternative Survey Area. These surface waters were not included in this Addendum as it is anticipated that they would be avoided if the Non-Miramar Alternative was selected by the CPUC.

4.1.0 USACE-Jurisdictional Features

Kearny Villa Road Route Segment Alternative

Insignia's biologists identified a total of 17 drainages within the Kearny Villa Road Route Segment Alternative Survey Area that are potentially under the jurisdiction of the USACE that comprise approximately 2.08 acres (4,201 linear feet) within the limits of the OHWM. Table 4: Potential Jurisdictional Hydrological Features within the Addendum Survey Area summarizes the acreages and linear feet of drainages mapped within the Kearny Villa Road Route Segment Alternative Survey Area by hydrological regime.

No traditional navigable waters (TNWs) (as defined by the USACE) are located within the Kearny Villa Road Route Segment Alternative. In total, five intermittent drainages were observed within the Kearny Villa Road Route Segment Alternative. These include San Clemente Canyon Creek. Insignia biologists also mapped 12 ephemeral drainages, which are generally considered to be tributaries due their direct or indirect flow into a TNW.

Table 4: Potential Jurisdictional Hydrological Features within the Addendum Survey Area

Feature Type	Approximate Potential USACE-Jurisdictional Area[5]		Approximate Potential RWQCB-Jurisdicitional Area[6]		Approximate Potential CDFW-Jurisdictional Area[7] (acres)
	Acres	Linear Feet	Acres	Linear Feet	
Kearny Villa Road Route Segment Alternative					
Wetlands	0.10	(Not Applicable [N/A])	0.32	N/A	0.74
Vernal Pools	N/A	N/A	0.24	N/A	0.24
Intermittent Drainages	0.72	1,008	0.72	1,008	1.42
Ephemeral Drainages	1.37	3,193	1.37	3,193	4.32
Riparian Vegetation	N/A	N/A	N/A	N/A	0.27
West of Aqueduct Road Route Segment Alternative					
Wetlands	0.06	N/A	0.06	N/A	0.06
Vernal Pools	N/A	N/A	0.05	N/A	0.04
Intermittent Drainages	0.44	298	0.44	298	0.57
Ephemeral Drainages	0.75	2,979	0.75	2,979	0.97
Riparian Vegetation	N/A	N/A	N/A	N/A	0.01
Spring Canyon Fire Break Route Segment Alternative					
Wetlands	--	N/A	--	N/A	--
Vernal Pools	N/A	N/A	--	N/A	--
Intermittent Drainages	--	--	--	--	--
Ephemeral Drainages	0.06	745	0.06	745	0.14
Riparian Vegetation	N/A	N/A	N/A	N/A	--
Non-Miramar Alternative					
Wetlands	1.71	N/A	1.72	N/A	0.88
Vernal Pools	N/A	N/A	--	N/A	--
Intermittent Drainages	3.12	7,154	3.12	7,154	8.21
Ephemeral Drainages	11.29	19,345	11.29	19,345	15.75
Riparian Vegetation	N/A	N/A	N/A	N/A	8.93

[5] These numbers include the area within the OHWM for waters potentially under the jurisdiction of the USACE.
[6] These numbers include the area within the OHWM for waters potentially under the jurisdiction of the RWQCB.
[7] The distance between TOBs was used to measure the area of streams under the jurisdiction of the CDFW.

Potential USACE-jurisdictional wetlands comprise a total of approximately 0.10 acre within the Kearny Villa Road Route Segment Alternative Survey Area based on the presence of dominant hydrophytic vegetation communities. As previously discussed in Section 3 – Methods, no soil pits were dug within these potential wetland areas; as a result, it was not possible to determine if these areas also met the hydric soil and hydrology parameters of the wetland delineation test, as outlined in the *Wetlands Delineation Manual* (Environmental Laboratory 1987). As such, the mapped wetland totals included in Table 4: Potential Jurisdictional Hydrological Features within the Addendum Survey Area likely overestimate the USACE-jurisdictional wetland areas present within the Kearny Villa Road Route Segment Alternative Survey Area.

West of Aqueduct Road Route Segment Alternative

Insignia's biologists identified a total of 10 drainages within the West of Aqueduct Road Route Segment Alternative Survey Area that are potentially under the jurisdiction of the USACE that comprise approximately 1.19 acres (3,277 linear feet) within the limits of the OHWM. Table 4: Potential Jurisdictional Hydrological Features within the Addendum Survey Area summarizes the acreages and linear feet of drainages mapped within the Addendum Survey Area by hydrological regime.

No TNWs (as defined by the USACE) are located within the West of Aqueduct Road Route Segment Alternative. In total, one intermittent drainage was observed within the West of Aqueduct Road Route Segment Alternative. These include San Clemente Canyon Creek and Elanus Canyon Creek. Insignia biologists also mapped nine ephemeral drainages, which are generally considered to be tributaries due their direct or indirect flow into a TNW.

Potential USACE-jurisdictional wetlands comprise a total of approximately 0.06 acre within the West of Aqueduct Road Route Segment Alternative Survey Area based on the presence of dominant hydrophytic vegetation communities. As previously discussed in Section 3 – Methods, no soil pits were dug within these potential wetland areas; as a result, it was not possible to determine if these areas also met the hydric soil and hydrology parameters of the wetland delineation test, as outlined in the *Wetlands Delineation Manual* (Environmental Laboratory 1987). As such, the mapped wetland totals included in Table 4: Potential Jurisdictional Hydrological Features within the Addendum Survey Area likely overestimate the USACE-jurisdictional wetland areas present within the Addendum Survey Area.

Spring Canyon Firebreak Route Segment Alternative

Insignia's biologists identified a total of three drainages within the Spring Canyon Firebreak Route Segment Alternative Survey Area that are potentially under the jurisdiction of the USACE and RWQCB and that comprise approximately 0.06 acre (745 linear feet) within the limits of the OHWM. Table 4: Potential Jurisdictional Hydrological Features within the Addendum Survey Area summarizes the acreages and linear feet of drainages mapped within the Spring Canyon Firebreak Route Segment Alternative Survey Area by hydrological regime.

No TNWs (as defined by the USACE) are located within the Spring Canyon Firebreak Route Segment Alternative Survey Area. No intermittent drainages were observed within the Spring Canyon Firebreak Route Segment Alternative Survey Area. Insignia biologists mapped three ephemeral drainages, which are generally considered to be tributaries due their direct or indirect

flow into a TNW. No wetlands were observed within the Spring Canyon Firebreak Route Segment Alternative Survey Area.

Rainbow to Santee Non-Miramar Alternative

Insignia's biologists identified a total of 37 drainages within the Non-Miramar Alternative Survey Area that are potentially under the jurisdiction of the USACE and RWQCB and that comprise approximately 16.12 acres (26,499 linear feet) within the limits of the OHWM. Table 4: Potential Jurisdictional Hydrological Features within the Addendum Survey Area summarizes the acreages and linear feet of drainages mapped within the Non-Miramar Alternative Survey Area by hydrological regime.

No TNWs (as defined by the USACE) are located within the Non-Miramar Alternative Survey Area. In total, 18 intermittent drainages were observed within the Non-Miramar Alternative Survey Area, including Sycamore Canyon Creek. Insignia biologists also mapped 19 ephemeral drainages, which are generally considered to be tributaries due their direct or indirect flow into a TNW.

Potential USACE-jurisdictional wetlands comprise a total of approximately 1.71 acres within the Non-Miramar Alternative Survey Area based on the presence of dominant hydrophytic vegetation communities. As previously discussed in Section 3 – Methods, no soil pits were dug within these potential wetland areas; as a result, it was not possible to determine if these areas also met the hydric soil and hydrology parameters of the wetland delineation test, as outlined in the *Wetlands Delineation Manual* (Environmental Laboratory 1987). As such, the mapped wetland totals included in Table 4: Potential Jurisdictional Hydrological Features within the Addendum Survey Area likely overestimate the USACE-jurisdictional wetland areas present within the Non-Miramar Alternative Survey Area.

4.1.1 RWQCB-Jurisdictional Features

Isolated wetlands and vernal pools do not occur within the USACE's jurisdiction, but they are regulated by the RWQCB. Table 4: Potential Jurisdictional Hydrological Features within the Addendum Survey Area summarizes the acreages and linear feet of all RWQCB-jurisdictional drainages and wetlands.

4.1.2 CDFW-Jurisdictional Features

Kearny Villa Road Route Segment Alternative

A total of approximately seven acres of potential CDFW-jurisdictional features were identified within the Kearny Villa Road Route Segment Alternative, as summarized in Table 4: Potential Jurisdictional Hydrological Features within the Addendum Survey Area and pursuant to Section 1600 of the California Fish and Game Code. These features included approximately 5.75 acres[8] of drainages, 0.27 acre of riparian vegetation, 0.74 acre of wetlands, and 0.24 acre of vernal pools.

[8] Figures do not sum due to rounding to the nearest tenth.

West of Aqueduct Road Route Segment Alternative

A total of approximately 1.65 acres of potential CDFW-jurisdictional features were identified within the West of Aqueduct Road Route Segment Alternative, as summarized in Table 4: Potential Jurisdictional Hydrological Features within the Addendum Survey Area and pursuant to Section 1600 of the California Fish and Game Code. These features included approximately 1.54 acres[9] of drainages, 0.01 acre of riparian vegetation, 0.06 acre of wetlands, and 0.04 acre of vernal pools.

Spring Canyon Firebreak Route Segment Alternative

A total of approximately 0.14 acre of potential CDFW-jurisdictional drainages were identified within the Spring Canyon Firebreak Route Segment Alternative, as summarized in Table 4: Potential Jurisdictional Hydrological Features within the Addendum Survey Area and pursuant to Section 1600 of the California Fish and Game Code.

Rainbow to Santee Non-Miramar Alternative

A total of approximately 33.77 acres of potential CDFW-jurisdictional features were identified within the Non-Miramar Alternative, as summarized in Table 4: Potential Jurisdictional Hydrological Features within the Addendum Survey Area and pursuant to Section 1600 of the California Fish and Game Code. These features included approximately 23.96 acres[10] of drainages, 8.93 acres of riparian vegetation, and 0.88 acre of wetlands.

5 – DISCUSSION

Based on the data and analysis provided in this Addendum, jurisdictional waters were present throughout the Addendum Survey Area. Potential wetlands were present in the Kearny Villa Road Route Segment Alternative, the West of Aqueduct Road Route Segment Alternative, and the Non-Miramar Alternative. Vernal pools were observed in the Kearny Villa Road Route Segment Alternative and the West of Aqueduct Road Route Segment Alternative. If any of these alternatives are chosen by the CPUC, formal wetland delineations will be required and impacts will need to be further evaluated based on actual workspaces.

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[9] Figures do not sum due to rounding to the nearest tenth.
[10] Figures do not sum due to rounding to the nearest tenth.

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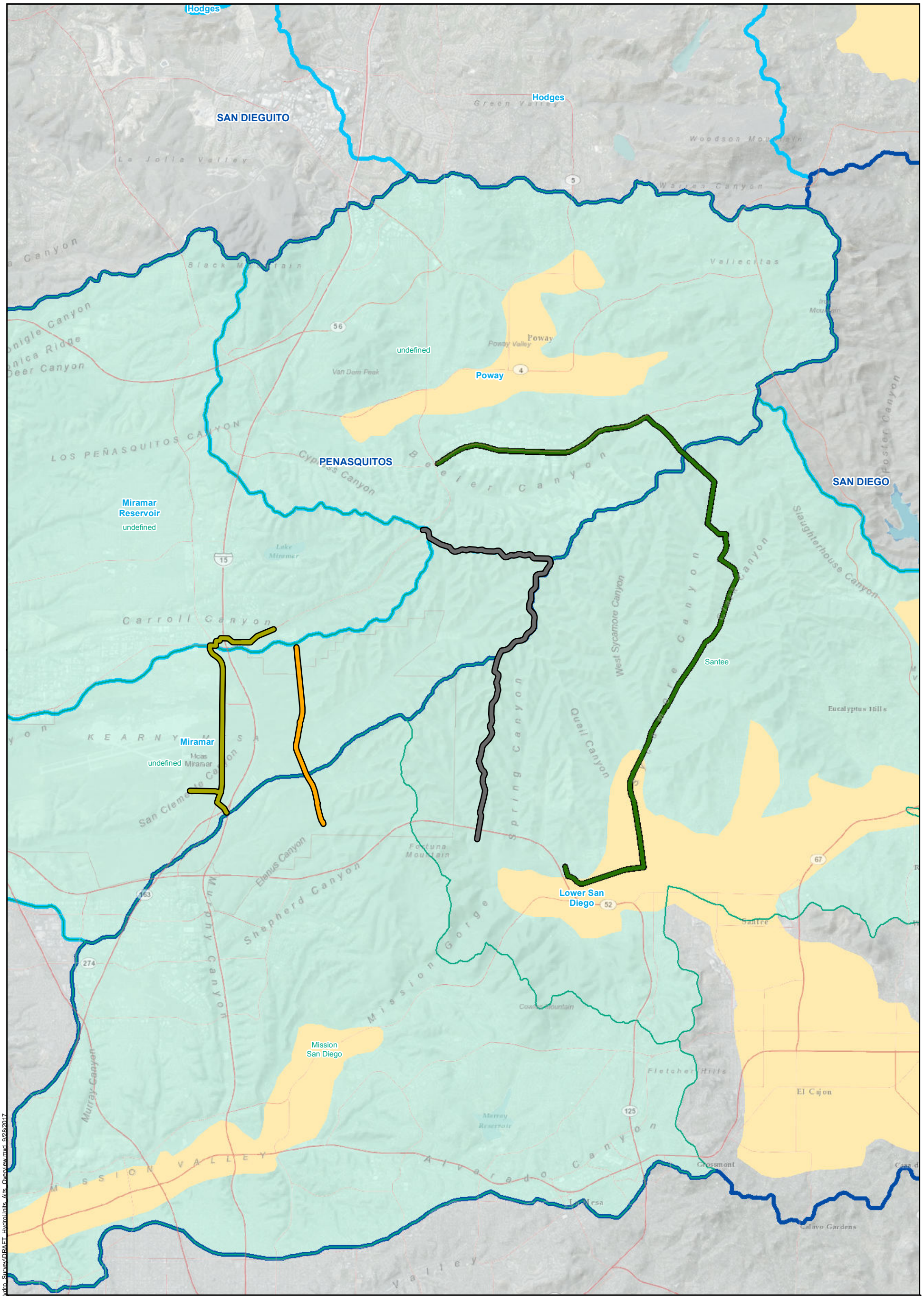
ATTACHMENT A: HYDROLOGIC REGION MAP



Attachment A: Hydrologic Units Map

Pipeline Safety & Reliability Project

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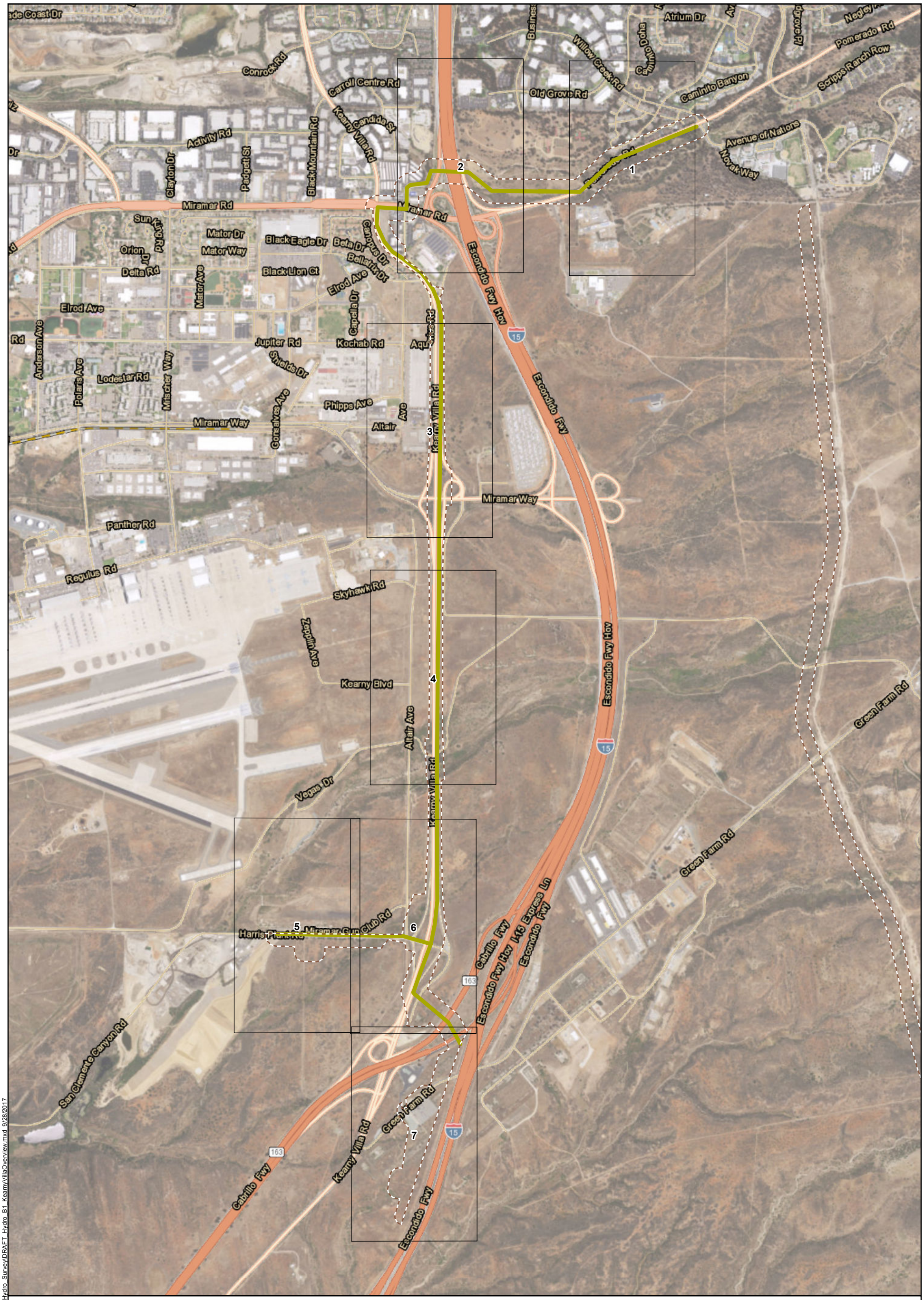
ATTACHMENT B: WETLAND AND WATERS ASSESSMENT MAP



Attachment B-1:Kearny Villa Road Route Segment Alternative Overview Map

Pipeline Safety & Reliability Project

Survey Area | Route Segment Alternative | Mapbook Extent

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SDGE A Sempra Energy utility | Southern California Gas Company A Sempra Energy utility | INSIGNIA ENVIRONMENTAL

\MXDs\Surveys\2017_Hydro_Survey\DRAFT_Hydro_B1_KearnyVillaOverview.mxd 9/28/2017

Attachment B-1: Kearny Villa Road Alternative Wetlands and Waters Assessment Map 1 of 7

Pipeline Safety & Reliability Project

- Survey Area
- Route Segment Alternative
- Culvert
- Culverted Segment
- USACE/RWQCB/CDFW Drainage
- USACE/RWQCB Wetlands
- RWQCB/CDFW Isolated Wetlands
- CDFW Riparian
- Potential Vernal Pools

1:3,000

0 200 400 Feet

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Attachment B-1: Kearny Villa Road Alternative Wetlands and Waters Assessment Map 2 of 7

Pipeline Safety & Reliability Project

- Survey Area
- Route Segment Alternative
- Culvert
- Culverted Segment
- USACE/RWQCB/CDFW Drainage
- USACE/RWQCB Wetlands
- RWQCB/CDFW Isolated Wetlands
- CDFW Riparian
- Potential Vernal Pools

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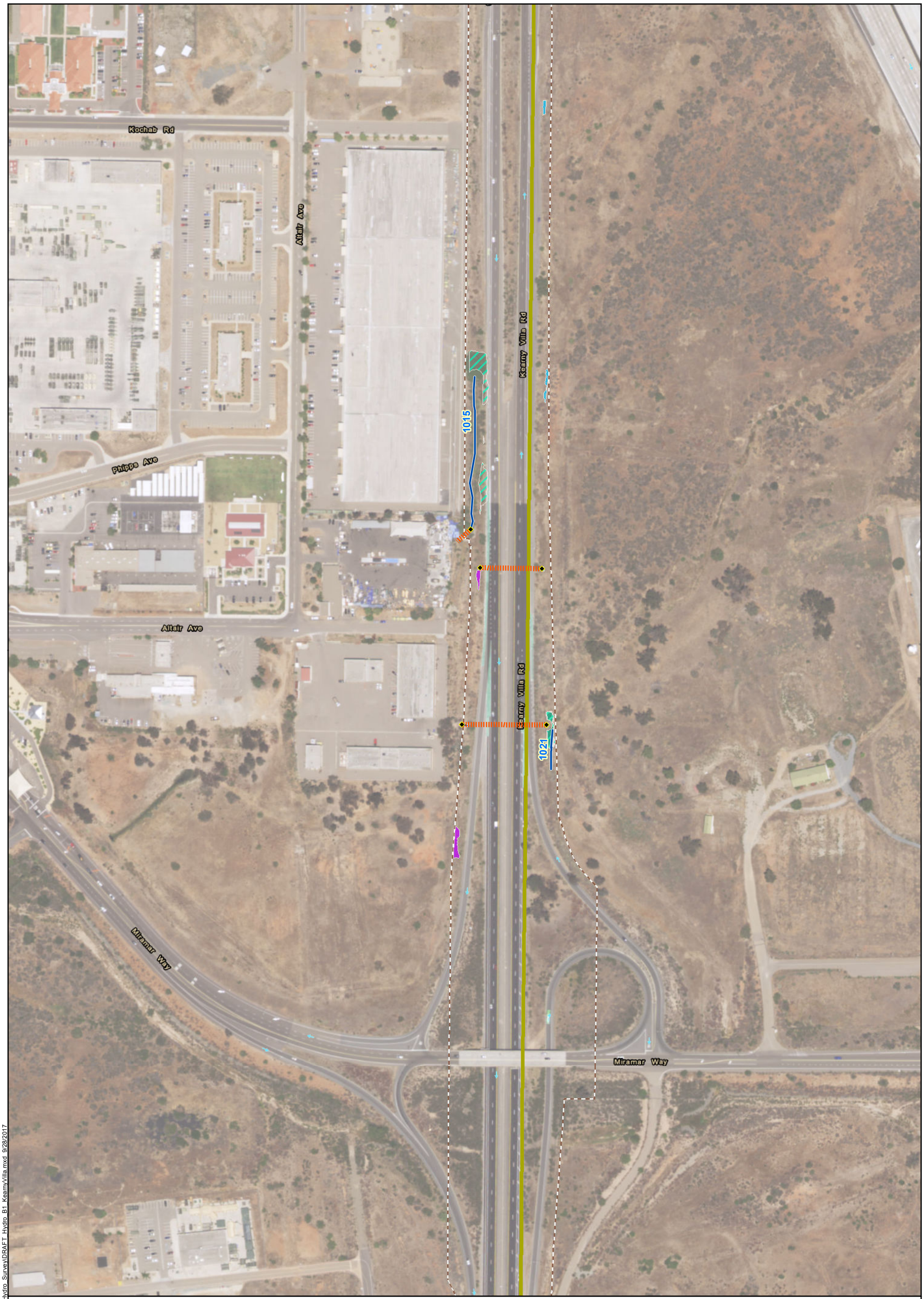

Attachment B-1: Kearny Villa Road Alternative Wetlands and Waters Assessment Map 3 of 7

Pipeline Safety & Reliability Project

- Survey Area
- Route Segment Alternative
- Culvert
- Culverted Segment
- USACE/RWQCB/CDFW Drainage
- USACE/RWQCB Wetlands
- RWQCB/CDFW Isolated Wetlands
- CDFW Riparian
- Potential Vernal Pools

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0 200 400 Feet

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Attachment B-1: Kearny Villa Road Alternative Wetlands and Waters Assessment Map 4 of 7

Pipeline Safety & Reliability Project

- Survey Area
- Route Segment Alternative
- Culvert
- Culverted Segment
- USACE/RWQCB/CDFW Drainage
- USACE/RWQCB Wetlands
- RWQCB/CDFW Isolated Wetlands
- CDFW Riparian
- Potential Vernal Pools

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\MXDs\Surveys\2017_Hydro_Survey\DRAFT_Hydro_B1_KearnyVilla.mxd 9/28/2017

Attachment B-1: Kearny Villa Road Alternative Wetlands and Waters Assessment Map 5 of 7

Pipeline Safety & Reliability Project

Survey Area
Route Segment Alternative
Culvert
Culverted Segment
USACE/RWQCB/CDFW Drainage
USACE/RWQCB Wetlands
RWQCB/CDFW Isolated Wetlands
CDFW Riparian
Potential Vernal Pools

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Attachment B-1: Kearny Villa Road Alternative Wetlands and Waters Assessment Map 6 of 7

Pipeline Safety & Reliability Project

- Survey Area
- Route Segment Alternative
- Culvert
- Culverted Segment
- USACE/RWQCB/CDFW Drainage
- USACE/RWQCB Wetlands
- RWQCB/CDFW Isolated Wetlands
- CDFW Riparian
- Potential Vernal Pools

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Attachment B-1: Kearny Villa Road Alternative Wetlands and Waters Assessment Map 7 of 7

Pipeline Safety & Reliability Project

Survey Area
Route Segment Alternative
Culvert
Culverted Segment
USACE/RWQCB/CDFW Drainage
USACE/RWQCB Wetlands
RWQCB/CDFW Isolated Wetlands
CDFW Riparian
Potential Vernal Pools

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\MXDs\Surveys\2017 Hydro Survey\DRAFT Hydro B1 KearnyVilla.mxd 9/28/2017

Attachment B-2: West of Aqueduct Road Route Segment Alternative Overview Map

Pipeline Safety & Reliability Project

Survey Area | Route Segment Alternative | Mapbook Extent

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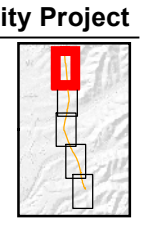
\MXDs\Surveys\2017_Hydro_Survey\DRAFT Hydro_B2_WestAqOverview.mxd 9/28/2017

Attachment B-2: West of Aqueduct Road Wetlands and Waters Assessment Map 1 of 5

Pipeline Safety & Reliability Project

Survey Area
Route Segment Alternative
Culvert
Culverted Segment
USACE/RWQCB/CDFW Drainage
USACE/RWQCB Wetlands
RWQCB/CDFW Isolated Wetlands
CDFW Riparian
Potential Vernal Pools



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SDGE A Sempra Energy utility
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\MXDs\Surveys\2017_Hydro_Survey\DRAFT_Hydro_B2_WestAq.mxd 9/28/2017

Attachment B-2: West of Aqueduct Road Wetlands and Waters Assessment Map 2 of 5

Pipeline Safety & Reliability Project

- Survey Area
- Route Segment Alternative
- Culvert
- Culverted Segment
- USACE/RWQCB/CDFW Drainage
- USACE/RWQCB Wetlands
- RWQCB/CDFW Isolated Wetlands
- CDFW Riparian
- Potential Vernal Pools

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\MXDs\Surveys\2017_Hydro_Survey\DRAFT_Hydro_B2_WestAq.mxd 9/28/2017

Attachment B-2: West of Aqueduct Road Wetlands and Waters Assessment Map 3 of 5

Pipeline Safety & Reliability Project

- Survey Area
- Route Segment Alternative
- Culvert
- Culverted Segment
- USACE/RWQCB/CDFW Drainage
- USACE/RWQCB Wetlands
- RWQCB/CDFW Isolated Wetlands
- CDFW Riparian
- Potential Vernal Pools

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\MXDs\Surveys\2017_Hydro_Survey\DRAFT_Hydro_B2_WestAq.mxd 9/28/2017

Attachment B-2: West of Aqueduct Road Wetlands and Waters Assessment Map 4 of 5

Pipeline Safety & Reliability Project

Survey Area
Route Segment Alternative
Culvert
Culverted Segment
USACE/RWQCB/CDFW Drainage
USACE/RWQCB Wetlands
RWQCB/CDFW Isolated Wetlands
CDFW Riparian
Potential Vernal Pools

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Attachment B-2: West of Aqueduct Road Wetlands and Waters Assessment Map 5 of 5

Pipeline Safety & Reliability Project

- Survey Area
- Route Segment Alternative
- Culvert
- Culverted Segment
- USACE/RWQCB/CDFW Drainage
- USACE/RWQCB Wetlands
- RWQCB/CDFW Isolated Wetlands
- CDFW Riparian
- Potential Vernal Pools

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Attachment B-3: Spring Canyon Firebreak Route Segment Alternative Overview Map

Pipeline Safety & Reliability Project

Survey Area | Route Segment Alternative | Mapbook Extent

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Attachment B-3: Spring Canyon Firebreak Wetlands and Waters Assessment Map 1 of 2

Pipeline Safety & Reliability Project

- Survey Area
- Route Segment Alternative
- Culvert
- Culverted Segment
- USACE/RWQCB/CDFW Drainage
- USACE/RWQCB Adjacent Wetlands
- RWQCB/CDFW Isolated Wetlands
- CDFW Riparian
- Potential Vernal Pools

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52

52

Attachment B-3: Spring Canyon Firebreak Wetlands and Waters Assessment Map 2 of 2

Pipeline Safety & Reliability Project

- Survey Area
- Route Segment Alternative
- Culvert
- Culverted Segment
- USACE/RWQCB/CDFW Drainage
- USACE/RWQCB Adjacent Wetlands
- RWQCB/CDFW Isolated Wetlands
- CDFW Riparian
- Potential Vernal Pools

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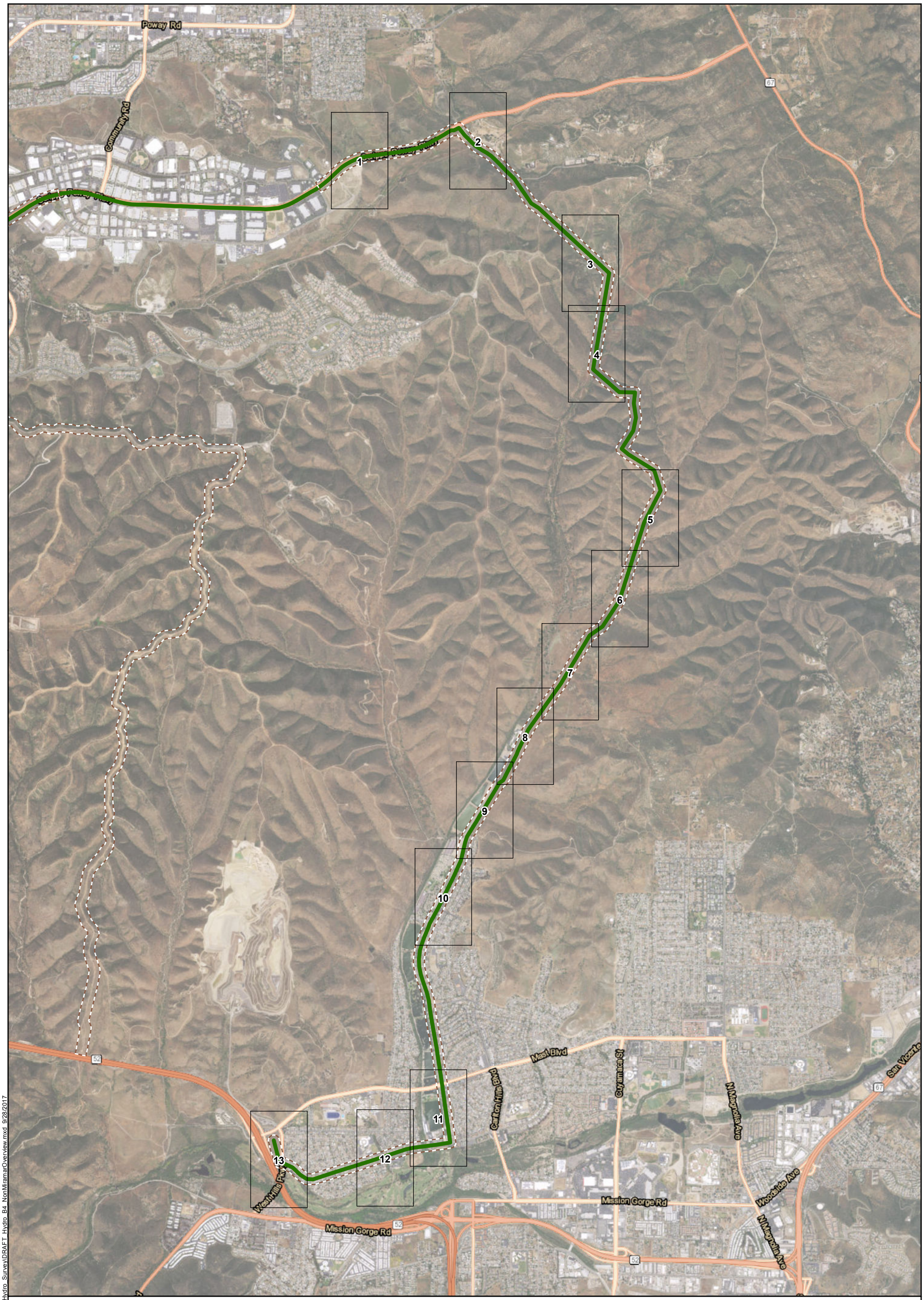

Attachment B-4: Non-Miramar Alternative Overview Map

Pipeline Safety & Reliability Project

Survey Area | Alternative Route | Mapbook Extent

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Attachment B-4: Non-Miramar Alternative Wetlands and Waters Assessment Map 1 of 13

Pipeline Safety & Reliability Project

Survey Area
Alternative Route
Culvert
Culverted Segment
USACE/RWQCB/CDFW Drainage
USACE/RWQCB Wetlands
RWQCB/CDFW Isolated Wetlands
CDFW Riparian
Potential Vernal Pools

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Attachment B-4: Non-Miramar Alternative Wetlands and Waters Assessment Map 2 of 13

Pipeline Safety & Reliability Project

- Survey Area
- Alternative Route
- Culvert
- Culverted Segment
- USACE/RWQCB/CDFW Drainage
- USACE/RWQCB Wetlands
- RWQCB/CDFW Isolated Wetlands
- CDFW Riparian
- Potential Vernal Pools

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Attachment B-4: Non-Miramar Alternative Wetlands and Waters Assessment Map 3 of 13

Pipeline Safety & Reliability Project

Survey Area
Alternative Route
Culvert
Culverted Segment
USACE/RWQCB/CDFW Drainage
USACE/RWQCB Wetlands
RWQCB/CDFW Isolated Wetlands
CDFW Riparian
Potential Vernal Pools

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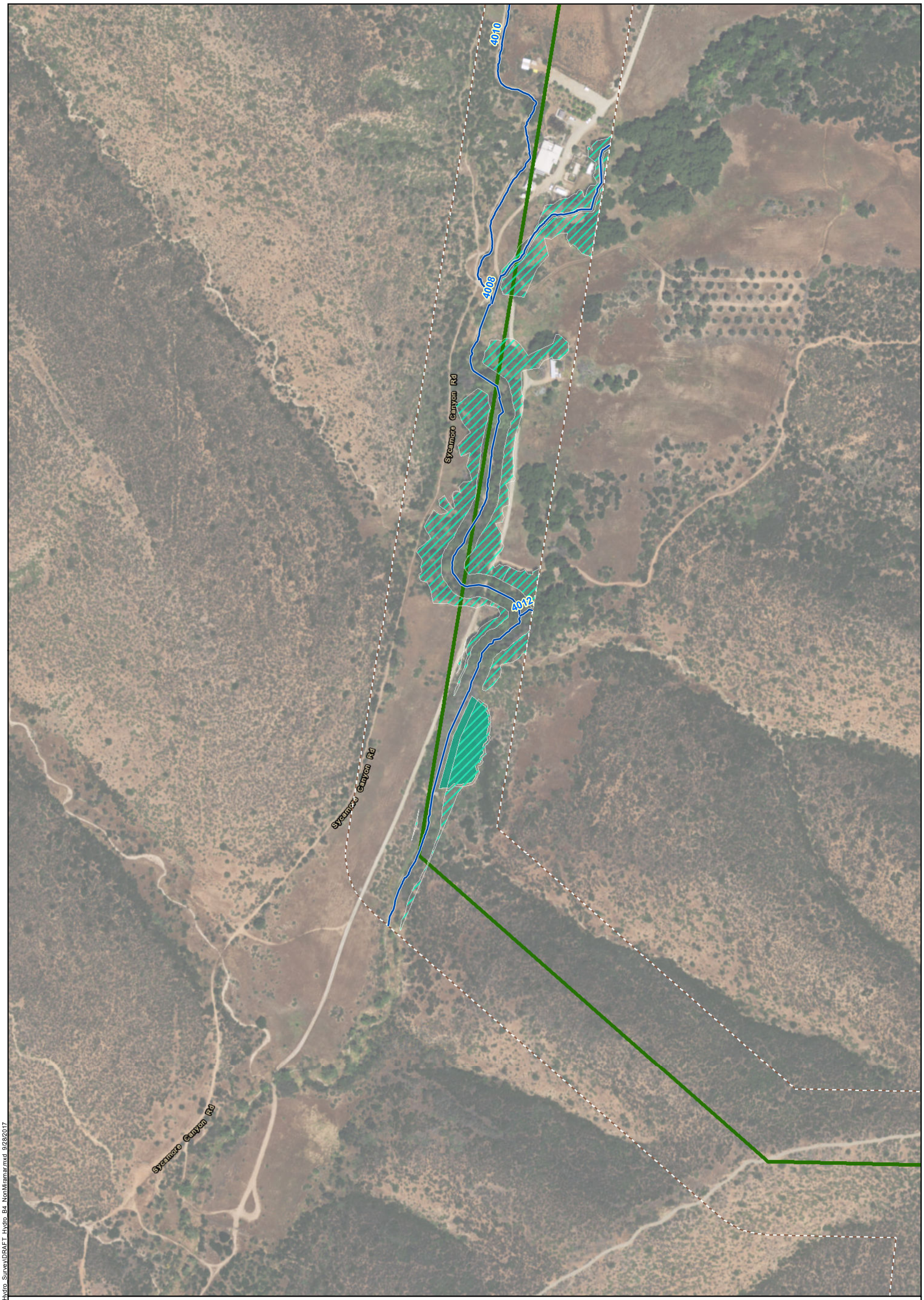

Attachment B-4: Non-Miramar Alternative Wetlands and Waters Assessment Map 4 of 13

Pipeline Safety & Reliability Project

- Survey Area
- Alternative Route
- Culvert
- Culverted Segment
- USACE/RWQCB/CDFW Drainage
- USACE/RWQCB Wetlands
- RWQCB/CDFW Isolated Wetlands
- CDFW Riparian
- Potential Vernal Pools

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Attachment B-4: Non-Miramar Alternative Wetlands and Waters Assessment Map 5 of 13

Pipeline Safety & Reliability Project

Survey Area
Alternative Route
Culvert
Culverted Segment
USACE/RWQCB/CDFW Drainage
USACE/RWQCB Wetlands
RWQCB/CDFW Isolated Wetlands
CDFW Riparian
Potential Vernal Pools

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Attachment B-4: Non-Miramar Alternative Wetlands and Waters Assessment Map 6 of 13

Pipeline Safety & Reliability Project

Survey Area
Alternative Route
Culvert
Culverted Segment
USACE/RWQCB/CDFW Drainage
USACE/RWQCB Wetlands
RWQCB/CDFW Isolated Wetlands
CDFW Riparian
Potential Vernal Pools

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Attachment B-4: Non-Miramar Alternative Wetlands and Waters Assessment Map 7 of 13

Pipeline Safety & Reliability Project

- Survey Area
- Alternative Route
- Culvert
- Culverted Segment
- USACE/RWQCB/CDFW Drainage
- USACE/RWQCB Wetlands
- RWQCB/CDFW Isolated Wetlands
- CDFW Riparian
- Potential Vernal Pools

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0 200 400 Feet

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Attachment B-4: Non-Miramar Alternative Wetlands and Waters Assessment Map 8 of 13

Pipeline Safety & Reliability Project

Survey Area
Alternative Route
Culvert
Culverted Segment
USACE/RWQCB/CDFW Drainage
USACE/RWQCB Wetlands
RWQCB/CDFW Isolated Wetlands
CDFW Riparian
Potential Vernal Pools

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0 200 400 Feet

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\MXDs\Surveys\2017 Hydro Survey\DRAFT Hydro B4 NonMiramar.mxd 9/28/2017

Attachment B-4: Non-Miramar Alternative Wetlands and Waters Assessment Map 9 of 13

Pipeline Safety & Reliability Project

Survey Area
Alternative Route
Culvert
Culverted Segment
USACE/RWQCB/CDFW Drainage
USACE/RWQCB Wetlands
RWQCB/CDFW Isolated Wetlands
CDFW Riparian
Potential Vernal Pools

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0 200 400 Feet

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Attachment B-4: Non-Miramar Alternative Wetlands and Waters Assessment Map 10 of 13

Pipeline Safety & Reliability Project

Survey Area
Alternative Route
Culvert
Culverted Segment
USACE/RWQCB/CDFW Drainage
USACE/RWQCB Wetlands
RWQCB/CDFW Isolated Wetlands
CDFW Riparian
Potential Vernal Pools

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0 200 400 Feet

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Attachment B-4: Non-Miramar Alternative Wetlands and Waters Assessment Map 11 of 13

Pipeline Safety & Reliability Project

- Survey Area
- Alternative Route
- Culvert
- Culverted Segment
- USACE/RWQCB/CDFW Drainage
- USACE/RWQCB Wetlands
- RWQCB/CDFW Isolated Wetlands
- CDFW Riparian
- Potential Vernal Pools

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\MXDs\Survey\2017 Hydro Survey\DRAFT Hydro B4 NonMiramar.mxd 9/28/2017

Attachment B-4: Non-Miramar Alternative Wetlands and Waters Assessment Map 12 of 13

Pipeline Safety & Reliability Project

- Survey Area
- Alternative Route
- Culvert
- Culverted Segment
- USACE/RWQCB/CDFW Drainage
- USACE/RWQCB Wetlands
- RWQCB/CDFW Isolated Wetlands
- CDFW Riparian
- Potential Vernal Pools

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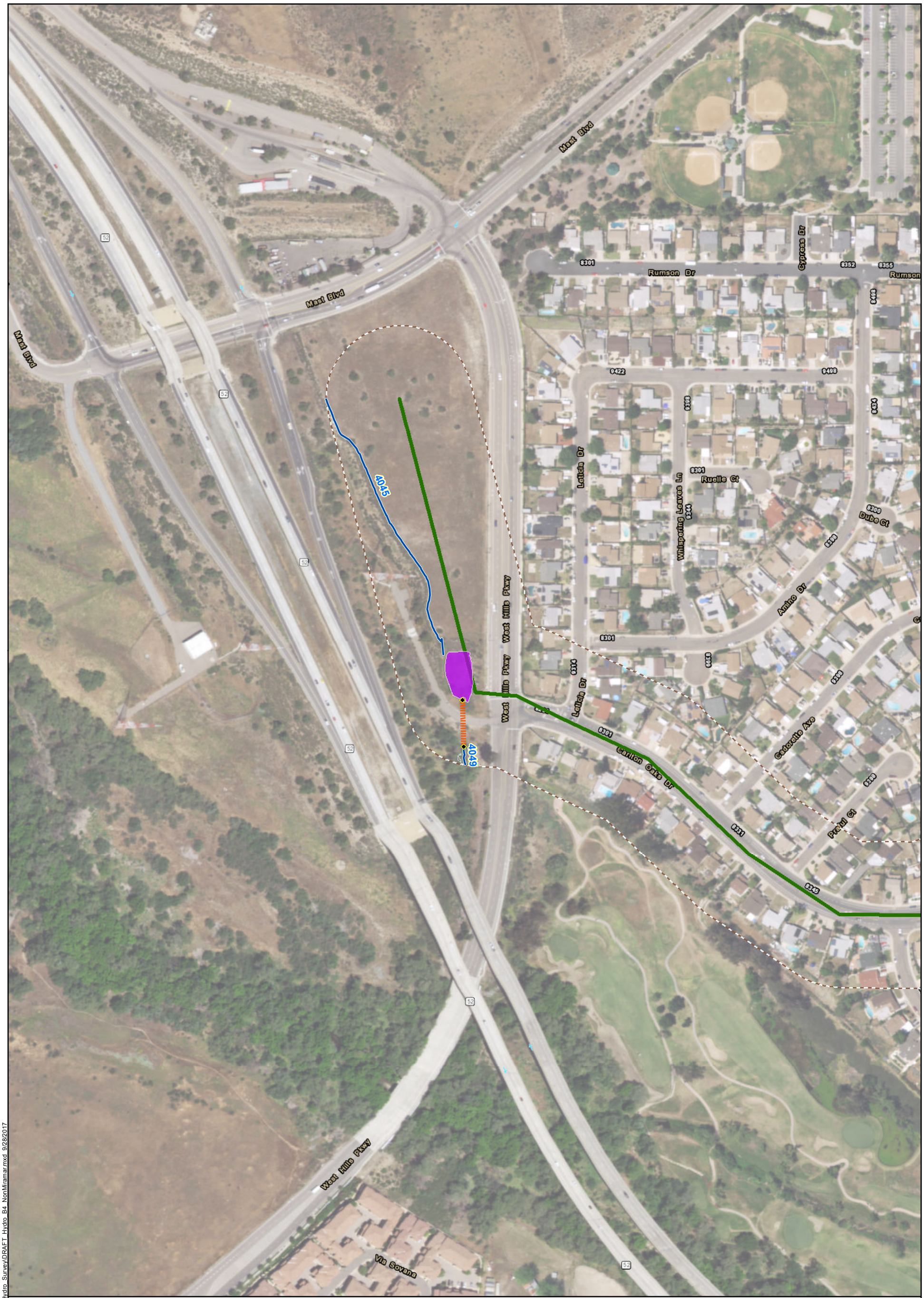

Attachment B-4: Non-Miramar Alternative Wetlands and Waters Assessment Map 13 of 13

Pipeline Safety & Reliability Project

- Survey Area
- Alternative Route
- Culvert
- Culverted Segment
- USACE/RWQCB/CDFW Drainage
- USACE/RWQCB Wetlands
- RWQCB/CDFW Isolated Wetlands
- CDFW Riparian
- Potential Vernal Pools

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\MXDs\Surveys\2017_Hydro_Survey\DRAFT_Hydro_B4_NonMiramar.mxd 9/28/2017

ATTACHMENT C: WETLAND AND WATER SURVEY RESULTS

ATTACHMENT C: WETLAND AND WATER SURVEY RESULTS

Table C-1: Drainage Features

Feature ID	Hydrological Regime	Approximate Length of Drainage in Survey Area (feet)	Average OHWM Width (feet)	Average OHWM Depth (feet)	Approximate USACE- and RWQCB-Jurisdictional Area (acres)	Average TOB Width (feet)	Average TOB Depth (feet)	Approximate CDFW-Jurisdictional Area (acres)
Kearny Villa Road Route Segment Alternative								
1002	Ephemeral	113	3.0	1.0	0.02	5.0	2.0	0.03
1003	Ephemeral	273	3.0	1.0	0.02	3.0	1.5	0.02
1004	Ephemeral	407	8.0	0.1	0.22	22.0	0.5	0.54
1009	Ephemeral	291	14.3	0.1	0.44	36.7	0.5	0.73
1010	Intermittent	148	32.5	1.5	0.27	40.0	3.0	0.35
1015	Intermittent	421	7.7	1.5	0.16	22.3	5.5	0.46
1019	Ephemeral	10	15.0	1.0	0.17	16.0	2.0	0.17
1021	Ephemeral	109	2.5	0.5	0.01	4.0	1.0	0.02
1024	Ephemeral	286	9.5	1.5	0.16	15.7	4.3	0.96
1028	Ephemeral	49	3.3	0.2	0.01	8.0	4.0	0.06
1029	Ephemeral	581	7.3	0.2	0.28	60.0	7.0	1.76
1031	Intermittent	69	8.0	2.0	0.02	12.0	3.0	0.02
1032	Intermittent	370	15.3	3.0	0.26	35.0	5.0	0.59
1038	Ephemeral	360	1.0	0.5	0.02	1.2	0.7	0.03
Total		**4,201**			**2.09**			**5.74**

Feature ID	Hydrological Regime	Approximate Length of Drainage in Survey Area (feet)	Average OHWM Width (feet)	Average OHWM Depth (feet)	Approximate USACE- and RWQCB-Jurisdictional Area (acres)	Average TOB Width (feet)	Average TOB Depth (feet)	Approximate CDFW-Jurisdictional Area (acres)
West of Aqueduct Road Route Segment Alternative								
2001	Ephemeral	233	2.3	0.8	0.02	3.5	1.0	0.03
2004	Ephemeral	107	3.0	1.5	0.01	4.0	2.0	0.01
2005	Ephemeral	247	16.3	1.8	0.22	19.7	2.8	0.27
2006	Ephemeral	342	5.0	2.5	0.05	8.0	3.0	0.08
2009	Ephemeral	201	6.0	2.0	0.05	9.0	3.0	0.08
2010	Intermittent	298	37.5	2.8	0.44	47.5	4.5	0.57
2012	Ephemeral	308	4.0	2.0	0.04	6.0	3.5	0.06
2013	Ephemeral	382	19.7	3.3	0.27	25.3	4.3	0.35
2014	Ephemeral	330	5.0	3.0	0.05	6.0	4.0	0.06
2015	Ephemeral	301	2.5	0.7	0.03	2.8	1.2	0.03
Total		**3,277**			**1.19**			**1.54**
Spring Canyon Firebreak Route Segment Alternative								
3001	Ephemeral	159	3.0	1.3	0.02	5.0	3.0	0.03
3002	Ephemeral	150	2.0	1.0	0.01	2.5	1.5	0.02
3003	Ephemeral	436	1.5	1.5	0.02	5.0	2.0	0.09
Total		**745**			**0.06**			**0.14**
Non-Miramar Alternative								
4001	Ephemeral	706	10.0	1.0	0.31	13.0	2.0	0.40
4003	Ephemeral	134	2.0	1.0	0.01	2.2	1.5	0.01

Feature ID	Hydrological Regime	Approximate Length of Drainage in Survey Area (feet)	Average OHWM Width (feet)	Average OHWM Depth (feet)	Approximate USACE- and RWQCB-Jurisdictional Area (acres)	Average TOB Width (feet)	Average TOB Depth (feet)	Approximate CDFW-Jurisdictional Area (acres)
4004	Ephemeral	75	2.0	1.0	0.01	2.2	1.5	0.01
4005	Ephemeral	583	8.0	2.0	0.20	12.0	5.0	0.30
4006	Intermittent	1,492	10.0	1.0	0.66	12.0	3.0	0.79
4007	Ephemeral	343	8.0	1.0	0.09	12.0	3.0	0.09
4008	Intermittent	638	5.0	1.5	0.13	6.0	3.0	0.15
4010	Intermittent	3,440	11.7	1.5	1.75	31.5	3.8	4.67
4012	Intermittent	69	3.0	0.1	0.01	7.0	0.5	0.01
4015	Ephemeral	157	2.3	3.0	0.01	4.3	3.7	0.01
4016	Ephemeral	4,100	38.3	3.7	7.04	50.0	4.0	9.70
4017	Ephemeral	1,391	7.0	1.3	0.43	9.7	2.0	0.44
4019	Ephemeral	577	17.3	3.2	0.37	20.7	4.3	0.43
4020	Ephemeral	593	1.7	2.0	0.09	3.0	2.5	0.13
4022	Ephemeral	505	2.7	2.2	0.06	3.8	3.0	0.06
4024	Ephemeral	487	4.5	1.5	0.09	9.3	4.3	0.18
4025	Ephemeral	995	2.8	2.3	0.12	6.0	2.8	0.28
4026	Intermittent	1,222	2.7	1.0	0.15	3.7	1.2	0.20
4030	Ephemeral	418	2.0	1.3	0.03	5.0	1.8	0.09
4031	Ephemeral	2,706	4.7	0.2	0.70	12.3	2.7	1.74
4037	Intermittent	277	6.0	2.0	0.09	16.0	2.5	0.21
4040	Ephemeral	810	23.0	2.0	1.64	25.0	3.0	2.14

Feature ID	Hydrological Regime	Approximate Length of Drainage in Survey Area (feet)	Average OHWM Width (feet)	Average OHWM Depth (feet)	Approximate USACE- and RWQCB-Jurisdictional Area (acres)	Average TOB Width (feet)	Average TOB Depth (feet)	Approximate CDFW-Jurisdictional Area (acres)
4043	Intermittent	185	6.0	1.0	0.08	15.0	7.0	0.19
4045	Ephemeral	819	2.5	3.0	0.09	4.0	3.5	0.14
4046	Intermittent	47	9.3	4.0	0.17	11.3	4.0	0.18
4049	Intermittent	58	8.3	1.0	0.07	10.3	2.0	0.07
4050	Intermittent	15	5.0	0.1	0.01	5.5	1.0	0.01
Total		**26,499**			**14.41**			**23.96**

Note: OHWM = ordinary high water mark; USACE = United States Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; TOB = top of bank; CDFW = California Department of Fish and Wildlife.

Table C-2: Wetland Features

Feature ID	Wetland Type	Approximate USACE-Jurisdictional Area (acres)	Approximate RWQCB-Jurisdictional Area (acres)
Kearny Villa Route Segment Alternative			
1001	Freshwater Seep	--	0.22
1005	Emergent Wetland	0.02	0.02
1006	Freshwater Seep	--	0.01
1008	Freshwater Seep	--	0.01
1011	Freshwater Seep	--	0.12
1012	Vernal Pool	--	0.01
1013	Vernal Pool	--	0.01
1016	Freshwater Seep	--	0.01
1017	Vernal Pool	--	<0.01
1020	Emergent Wetland	0.02	0.02
1022	Emergent Wetland	--	0.02
1023	Emergent Wetland	0.04	0.04
1027	Freshwater Seep	0.02	0.02
1030	Freshwater Seep	--	0.42
1033	Coastal and Valley Freshwater Marsh	--	0.02
1035	Vernal Pool	--	0.01
1036	Vernal Pool	--	0.01
1039	Vernal Pool	--	0.01
1040	Vernal Pool	--	0.02

Feature ID	Wetland Type	Approximate USACE-Jurisdictional Area (acres)	Approximate RWQCB-Jurisdictional Area (acres)
1041	Vernal Pool	--	0.05
1042	Vernal Pool	--	<0.01
1043	Vernal Pool	--	0.01
1044	Vernal Pool	--	<0.01
1045	Vernal Pool	--	0.03
1046	Vernal Pool	--	<0.01
1047	Vernal Pool	--	0.01
1048	Vernal Pool	--	0.01
1049	Vernal Pool	--	<0.01
1050	Vernal Pool	--	0.03
1051	Vernal Pool	--	0.01
Total		**0.10**	**0.32**
West of Aqueduct Road Route Segment Alternative			
2002	Coastal and Valley Freshwater Marsh	0.06	0.06
2003	Vernal Pool	--	0.01
2007	Vernal Pool	--	0.01
2008	Vernal Pool	--	0.01
2016	Vernal Pool	--	0.02
Total		**0.06**	**0.11**
Non-Miramar Alternative			
4014	Emergent Wetland	0.43	0.43
4029	Emergent Wetland	0.30	0.30

Feature ID	Wetland Type	Approximate USACE-Jurisdictional Area (acres)	Approximate RWQCB-Jurisdictional Area (acres)
4032	Emergent Wetland	--	<0.01
4044	Emergent Wetland	0.78	0.78
4048	Emergent Wetland	0.19	0.19
Total		**1.71**	**1.72**

Table C-3: CDFW-Jurisdictional Riparian Features

Feature ID	Vegetation Community	Approximate CDFW-Jurisdictional Area (acres)
Kearny Villa Road Route Segment Alternative		
1014	Southern Willow Scrub	0.13
1025	Eucalyptus Woodland	0.09
1026	Coastal Sage Scrub	0.05
1034	Southern Willow Scrub	<0.01
Total		**0.27**
West of Aqueduct Road Route Segment Alternative		
2011	Southern Riparian Woodland	0.01
Total		**0.01**
Non-Miramar Alternative		
4002	Coast Live Oak Riparian Forest	0.51
4009	Coast Live Oak Riparian Forest	0.74
4011	Coast Live Oak Riparian Forest	1.71
4013	Coast Live Oak Riparian Forest	0.49
4018	Coast Live Oak Riparian Forest	0.23
4021	Southern Riparian Woodland	0.14
4023	Coastal Sage Scrub	1.19
4027	Arundo-Dominated Riparian	0.03
4033	Southern Willow Scrub	0.35
4034	Southern Willow Scrub	0.03
4036	Southern Riparian Woodland (disturbed)	3.07

Feature ID	Vegetation Community	Approximate CDFW-Jurisdictional Area (acres)
4038	Southern Willow Scrub (disturbed)	0.14
4041	Southern Riparian Woodland (disturbed)	0.22
4047	Southern Willow Scrub	0.07
4052	Southern Willow Scrub	0.01
Total		**8.93**

ATTACHMENT D: DRAINAGE PHOTOGRAPHIC RECORD

ATTACHMENT D: DRAINAGE PHOTOGRAPHIC RECORD

Feature 1001: West-facing view of feature, looking upstream.

Feature 1002: East-facing view of feature, looking upstream.

Feature 1002: West-facing view of feature, looking downstream.

Feature 1003: South-facing view of feature, looking upstream.

Feature 1006: East-facing view of feature, looking upstream.

Feature 1008: Northwest-facing view of feature, looking upstream.

Feature 1010: East-facing view of feature, looking upstream.

Feature 1011: West-facing view of feature, looking upstream.

Feature 1012: South-facing view of feature, looking upstream.

Feature 1013: Northeast-facing view of feature, looking upstream.

Feature 1014: North-facing view of riparian corridor.

Feature 1015: North-facing view of feature, looking upstream.

Feature 1015: South-facing view of feature, looking downstream.

Feature 1017: West-facing view of feature, looking upstream.

Feature 1018: Northeast-facing view of feature, looking upstream.

Feature 1019: East-facing view of feature, looking upstream.

Feature 1019: West-facing view of feature, looking downstream.

Feature 1020: South-facing view of feature, looking upstream.

Feature 1020: West-facing view of feature, looking downstream.

Feature 1021: South-facing view of feature, looking upstream.

Feature 1021: North-facing view of feature, looking downstream.

Feature 1022: North-facing view of feature, looking upstream.

Feature 1023: North-facing view of feature, looking upstream.

Feature 1023: South-facing view of feature, looking downstream.

Feature 1024: East-facing view of feature, looking upstream.

Feature 1024: West-facing view of feature, looking downstream.

Feature 1025: West-facing view of riparian corridor.

Feature 1025: East-facing view of riparian corridor.

Feature 1026: South-facing view of riparian corridor.

Feature 1026: Southwest-facing view of riparian corridor.

Feature 1027: East-facing view of feature, looking upstream.

Feature 1027: West-view of feature, looking downstream.

Feature 1028: East-facing view of feature, looking upstream.

Feature 1028: West-facing view of feature, looking downstream.

Feature 1029: East-facing view of feature, looking upstream.

Feature 1029: West-facing view of feature, looking downstream.

Feature 1030: East-facing view of feature, looking upstream.

Feature 1030: West-facing view of feature, looking downstream.

Feature 1031: West-facing view of feature, looking downstream.

Feature 1032: Northeast-facing view of feature, looking upstream.

Feature 1033: West-facing view of feature, looking upstream.

Feature 1033: West-facing view of feature, looking upstream.

Feature 1034: Southeast-facing view of riparian corridor.

Feature 1035: Southwest-facing view of feature, looking upstream.

Feature 1036: Northeast-facing view of feature, looking upstream.

Feature 1039: South-facing view of feature, looking upstream.

Feature 1040: South-facing view of feature, looking upstream.

Feature 1041: Northeast-facing view of feature, looking upstream.

Feature 1042: North-facing view of feature, looking upstream.

Feature 1043: Southeast-facing view of feature, looking upstream.

Feature 1044: South-facing view of feature, looking upstream.

Feature 1045: South-facing view of feature, looking upstream.

Feature 1046: Northeast-facing view of feature, looking upstream.

Feature 1047: East-facing view of feature, looking upstream.

Feature 1048: North-facing view of feature, looking upstream.

Feature 1049: Northeast-facing view of feature, looking upstream.

Feature 1050: South-facing view of feature, looking upstream.

Feature 1051: Southwest-facing view of feature, looking upstream.

Feature 2001: East-facing view of feature, looking upstream.

Feature 2001: West-facing view of feature, looking downstream.

Feature 2002: Northeast-facing view of feature, looking upstream.

Feature 2003: Northeast-facing view of feature, looking upstream.

Feature 2004: West-facing view of feature, looking downstream.

Feature 2005: Southeast-facing view of feature, looking upstream.

Feature 2005: Northwest-facing view of feature, looking downstream.

Feature 2006: West-facing view of feature, looking downstream.

Feature 2007: West-facing view of feature, looking upstream.

Feature 2008: West-facing view of feature, looking upstream.

Feature 2009: East-facing view of feature, looking upstream.

Feature 2009: West-facing view of feature, looking downstream.

Feature 2010: East-facing view of feature, looking upstream.

Feature 2011: West-facing view of riparian corridor.

Feature 2012: East-facing view of feature, looking upstream.

Feature 2012: West-facing view of feature, looking downstream.

Feature 2013: East-facing view of feature, looking upstream.

Feature 2013: West-facing view of feature, looking downstream.

Feature 2014: Northeast-facing view of feature, looking upstream.

Feature 2014: South-facing view of feature, looking downstream.

Feature 2015: East-facing view of feature, looking upstream.

Feature 2016: West-facing view of feature, looking upstream.

Feature 2016: East-facing view of feature, looking downstream.

Feature 3001: North-facing view of feature, looking upstream.

Feature 3001: South-facing view of feature, looking downstream.

Feature 3002: West-facing view of feature, looking upstream.

Feature 3002: East-facing view of feature, looking downstream.

Feature 3003: South-facing view of feature, looking upstream.

Feature 3003: South-facing view of feature, looking downstream.

Feature 4005: North-facing view of feature, looking upstream.

Feature 4005: South-facing view of feature, looking downstream.

Feature 4006: South-facing view of feature, looking downstream.

Feature 4007: North-facing view of feature, looking upstream.

Feature 4008: Northeast-facing view of feature, looking upstream.

Feature 4008: Southwest-facing view of feature, looking downstream.

Feature 4010: South-facing view of feature, looking downstream.

Feature 4011: North-facing view of riparian corridor.

Feature 4012: East-facing view of feature, looking upstream.

Feature 4014: Southeast-facing view of feature, looking upstream.

Feature 4015: West-facing view of feature, looking upstream.

Feature 4016: North-facing view of feature, looking upstream.

Feature 4016: South-facing view of feature, looking downstream.

Feature 4017: East-facing view of feature, looking upstream.

Feature 4017: West-facing view of feature, looking downstream.

Feature 4018: East-facing view of riparian corridor.

Feature 4019: East-facing view of feature, looking upstream.

Feature 4019: West-facing view of feature, looking downstream.

Feature 4020: East-facing view of feature, looking upstream.

Feature 4020: West-facing view of feature, looking downstream.

Feature 4021: West-facing view of riparian corridor.

Feature 4022: West-facing view of feature, looking upstream.

Feature 4022: East-facing view of feature, looking downstream.

Feature 4023: West-facing view of feature, looking upstream.

Feature 4024: Southeast-facing view of feature, looking upstream.

Feature 4025: Southwest-facing view of feature, looking upstream.

Feature 4025: Southwest-facing view of feature, looking downstream.

Feature 4027: South-facing view of riparian corridor.

Feature 4028: North-facing view of feature, looking upstream.

Feature 4028: South-facing view of feature, looking downstream.

Feature 4029: West-facing view of feature, looking upstream.

Feature 4030: Northwest-facing view of feature, looking upstream.

Feature 4030: East-facing view of feature, looking downstream.

Feature 4032: Southwest-facing view of feature, looking upstream.

Feature 4033: North-facing view of riparian corridor.

Feature 4035: North-facing view of feature, looking upstream.

Feature 4035: Southwest-facing view of feature, looking downstream.

Feature 4036: North-facing view of riparian corridor.

Feature 4036: South-facing view of riparian corridor.

Feature 4040: North-facing view of feature, looking upstream.

Feature 4040: South-facing view of feature, looking downstream.

Feature 4041: West-facing view of riparian corridor.

Feature 4043: North-facing view of feature, looking upstream.

Feature 4043: South-facing view of feature, looking downstream.

Feature 4044: North-facing view of feature, looking upstream.

Feature 4044: South-facing view of feature, looking downstream.

Feature 4045: North-facing view of feature, looking upstream.

Feature 4045: South-facing view of feature, looking downstream.

Feature 4046: North-facing view of feature, looking upstream.

Feature 4046: South-facing view of feature, looking downstream.

Feature 4047: West-facing view of riparian corridor.

Feature 4047: East-facing view of riparian corridor.

Feature 4048: Northwest-facing view of feature, looking upstream.

Feature 4048: Southeast-facing view of feature, looking downstream.

Feature 4049: North-facing view of feature, looking upstream.

Feature 4049: South-facing view of feature, looking downstream.

Feature 4050: North-facing view of feature, looking upstream.

Feature 4050: South-facing view of feature, looking downstream.

Feature 4052: South-facing view of riparian corridor.