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August 15, 2017 9420

U.S. Fish and Wildlife Service Attn: Recovery Permit Coordinator 2177 Salk Avenue, Suite 250 Carlsbad, California 92008

> Subject: 2016/17 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Pure Water San Diego Program North City Project, San Diego County, California

The 2016/17 wet season survey for the presence or absence of two federally listed endangered vernal pool branchiopod species, Riverside fairy shrimp (*Streptocephalus woottoni*) and San Diego fairy shrimp (*Branchinecta sandiegonensis*), was conducted between December 5, 2016, and May 19, 2017. Dudek biologist Paul Lemons (TE-051248-5) conducted the surveys according to the *Survey Guidelines for the Listed Large Branchiopods* (USFWS 2015). This report summarizes the results of the 2016/2017 wet season survey in order to fulfill the report requirements in accordance with the Section 10(a)(1)(A) Recovery Permit for the Pure Water San Diego Program North City Project, located in San Diego County, California.

A total of 19 basins were identified as suitable habitat for vernal pool branchiopods and were surveyed during the 2016/2017 wet survey season. These 19 basins were identified as new in 2016/17 and not previously surveyed.

PROJECT LOCATION AND EXISTING CONDITIONS

Proposed North City Project pipelines extend through the cities of San Diego, Santee, and the community of Lakeside in unincorporated San Diego County, in addition to federal lands within MCAS Miramar (Figure 1, Regional Map). The Project site occupies portions of Township 14 South, Range 1 East, projected Sections 30 and 31; Township 14 South, Range 1 West, projected Sections 25 and 36; Township 14 South, Range 2 West, projected Sections 32, and 33; Township 15 South, Range 1 East, projected Sections 6 and 18; Township 15 South, Range 1 West, projected Sections 1, 23, and 30; Township 15 South, Range 2 West, projected Sections 6, 25, 29, 30, 31, 32, 33, 35, and 36; Township 15 South, Range 3 West, projected Sections 9, 10, 11, 16, 17, 20, 25, 26, and 28; Township 16 South, Range 2 West, projected Sections 1, 2, 3, and 4; and Township 16 South, Range 3 West, projected Sections 1, 2, 3, and 4; and Township 16 South, Range 3 West, projected Section 9 on the San Vicente Reservoir, El Cajon, La Mesa, Poway, La Jolla, and Del Mar U.S. Geological Survey 7.5 minute quadrangle maps (Figure 2, Vicinity Map).

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Elevations range from about 94 feet amsl in the southwestern portion of the Project site to approximately 688 feet amsl.

Soils within the Project site consist of acid igneous rock land; Altamont clay; Carlsbad-Urban Land complex, Chesterton fine sandy loam; Chesterton-Urban Land complex; Cieneba rocky and very rocky coarse sandy loam, Cieneba-Fallbrook rocky sandy loam; Diablo clay; Diablo-Olivenhain complex; Diablo-Urban land complex; Fallbrook sandy loam; Fallbrook-Vista sandy loam; Friant rocky fine sandy loam; Gaviota fine sandy loam; gravel pits; Huerhuero loam; metamorphic rock land; Olivenhain cobbly loam; Ramona sandy loam; Redding cobbly and gravelly loam; Redding-Urban land complex; riverwash; Salinas clay loam; stony land; terrace escarpments; Tujunga sand; and Visalia sandy loam (SanGIS 2016).

VEGETATION COMMUNITIES, LAND COVERS, AND WET FEATURES

A total of 28 vegetation communities and/or land cover types were identified within a 500-foot buffer of the Miramar Reservoir Alternative study area, and 26 vegetation communities and/or land cover types were observed within a 500-foot buffer of the San Vicente Pipeline Alternative study area. Dominate vegetation community/land cover categories within the study areas include disturbed and developed areas, scrub and chaparral, riparian and bottomlands, woodlands, and grasslands.

Suitable and potentially suitable habitat (i.e., ephemerally wet/ponded basins) for vernal pool branchiopods was identified on site and consists primarily of road rut (man-made) depressions, lacking vegetation, located immediately adjacent to roads and driveway access areas along the proposed project alignments; however, one basin (PWP 8) appears to be a naturally occurring pool adjacent to the Metro Biosolids Center (located north of State Route 52 (SR-52), adjacent to the Miramar Landfill). All of the basins surveyed are considered potentially suitable habitat for vernal pool branchiopods. All 19 basins surveyed were found in areas mapped as disturbed habitat.

Disturbed habitats are areas that have been physically disturbed and are no longer recognizable as native or naturalized vegetation associations (Oberbauer et al. 2008). These areas may continue to retail soil substrate. If vegetation is present, it is almost entirely composed of non-native vegetation, such as ornamentals or ruderal exotic species. Examples of these areas may include graded landscapes or areas, graded firebreaks, graded construction pads, construction staging areas, off-highway vehicle (OHV) trails, areas repeatedly cleared for fuel management, or repeatedly used areas that prevent revegetation (e.g., parking lots, trails that have persisted for years). On site, the dirt roads, dirt trails, and OHV areas are mapped as disturbed habitat.

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PREVIOUS BRACHIOPOD STUDIES

To Dudek's knowledge, no previous protocol-level surveys have been conducted within the basins surveyed during the 2016/17 wet season and discussed in this report.

SURVEY METHODS

The surveys methods follow the current USFWS survey guidelines protocol (USFWS 2015). The onset of the 2016/17 wet season survey at the project site began with a significant rain event occurring between November 26 and November 28, 2016. Within 24 hours after this rain event, the entire proposed alignment was visited by biologist Brock Ortega to confirm pooling. Mapping (using a Trimble GeoXT handheld Global Positioning System (GPS) unit) of inundated basins was conducted by Dudek biologist Monique O'Conner on December 1, 2016. The first day of protocol-level sampling (and all surveys thereafter) was conducted by biologist Paul Lemons on December 5, 2016. The protocol states that sampling must be initiated within 7 days of inundation. All suitable habitat basins on site that met the USFWS inundation criteria (i.e., depth of 3 centimeters (1.2 inches) or greater 24 hours after a rain event) to initiate protocol-level surveys were sampled, and USFWS survey forms were completed.

After initial inundation, all wet basins were surveyed at approximately 1-week intervals, according to the survey protocol, until dried up. Basins that dried up and then refilled were surveyed within 7 days of refilling and surveys were reinitiated at the 1-week interval. During the 2016/17 wet season survey, the project site was visited on 24 occasions. A schedule of the 2016/17 wet season survey effort is presented in Table 1. Due to significant rainfall on February 27, 2017 the visit was terminated due to safety concerns from flooding.

The surveys were conducted by Dudek biologist Paul Lemons (TE-051248-5). During each site visit, Mr. Lemons evaluated all basins to document inundation levels and performed sampling when appropriate. Throughout the 2016/17 season, daily precipitation was monitored from multiple weather stations across the proposed project alignment, using Weather Underground Inc. 2016–2017).

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Table 1 2015/16 Schedule of Surveys

Visit Number	Biologist	Date	Survey Type	Survey Conditions
1	BAO	November 28, 2016	Ponding check	No conditions recorded
2	МО	December 1, 2016	GPS inundated ponded basins	No conditions recorded
3	PML	December 5, 2016	Survey	0900-1500; 66°F–68°F; 50- 70% cc; 2-6 mph winds
4	PML	December 12, 2016	Survey	0840-1230; 60-70°F; 80-40% cc; 0–7 mph winds
5	PML	December 19, 2016	Survey	0830-1500; 63-67°F; 0% cc; 1-3 mph winds
6	PML	December 26, 2016	Survey	0950-1600; 58-60°F; 20-30% cc; 0-5 mph winds
7	PML	January 2, 2017	Survey	0930–1500; 54-61°F; 100% cc; 0-5 mph winds
8	PML	January 9, 2017	Survey	0820–1500; 60-63°F; 100% cc; 1-4 mph winds
9	PML	January 16, 2017	Survey	0900–1500; 55–66°F; 60-5% cc; 0–5 mph winds
10	PML	January 23, 2017	Survey	0900–1520; 54-56°F; 100- 90% cc; 3-15 mph winds, some rain
11	PML	January 30, 2017	Survey	0800–1440; 59-62°F; 10-20% cc; 0-7 mph winds
12	PML	February 6, 2017	Survey	0900-1520; 56-61°F; 100% cc; 1-10 mph winds
13	PML	February 13, 2017	Survey	0840-1500; 61°F-74°F; 0- 60% cc; 0-4 mph winds
14	PML	February 20, 2017	Survey	0800–1430; 59-71°F; 100– 40% cc; 0–6 mph winds
15	PML	February 27, 2017	Survey	0900–1400; 49–58°F; 100% cc; 4–15 mph winds; Heavy rain
16	PML	March 6, 2017	Survey	0900-1530; 54°F–76°F; 0% cc; 1-10 mph winds
17	PML	March 13, 2017	Survey	0820-1500; 59–75°F; 50-0% cc; 0-5 mph winds
18	PML	March 20, 2017	Survey- All pools dry	No conditions recorded
19	PML	March 23, 2017	Ponding check	No conditions recorded
20	PML	March 27, 2017	Survey- All pools dry	No conditions recorded
21	PML	May 8, 2017	Ponding check	No conditions recorded

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Table 1 2015/16 Schedule of Surveys

Visit Number	Biologist	Date	Survey Type	Survey Conditions
22	PML	May 12, 2017	Survey	0830-1430; 63-72°F; 100-80% cc; 1-5 mph winds
23	PML	May 19, 2017	Survey- All pools dry	No conditions recorded
24	PML	June 12, 2017	Ponding check: All pools dry, wet season concluded	No conditions recorded

Surveyors: BAO = Brock Ortega; MO = Monique O'Conner; PML = Paul Lemons (TE-051248-5)

Survey Conditions: °F = degrees Fahrenheit, cc = cloud cover, mph = miles per hour

Protocol-level sampling was performed within all basins that were considered potential listed branchiopod habitat by vernal pool branchiopods and any depressions meeting the USFWS 3-centimeter (1.2-inch) inundation criteria. The location of each basin sampled was recorded using a Global Positioning System (GPS) unit with sub-meter accuracy. GPS data were downloaded into an ArcGIS file by Dudek geographic information systems (GIS) specialist Andrew Greis.

During each survey, Mr. Lemons inspected the individual basins for depth, surface area of water, air and water temperature, level of disturbance, and presence of aquatic wildlife. An aquarium dip net was passed through every basin that met the USFWS inundation criteria. All portions of ponded water were surveyed from the bottom to the surface by moving the dip net in a mild zigzag pattern through the basin as directed by the sampling protocol (USFWS 2015). Dip net contents were frequently viewed and discarded of algae, plants, and other debris material when occurring at high concentrations (USFWS 2015). Samples were collected, when needed, using the aquarium net and a 40-milliliter (1.4-ounce) glass vial. Specimens were stored in the vial with water collected where the specimen was found. Specimens were taken to the laboratory within 24 hours of collection and placed in a non-denatured ethyl alcohol (200 proof) solution for preservation. Each specimen was inspected thoroughly using a dissecting microscope and soft-tip forceps. Eriksen and Belk (1999) was used to verify the species of each specimen collected. If any listed vernal pool branchiopods would have been identified during this survey effort, the USFWS would have been notified within 10 days of occupied basins as stated in the protocol.

Survey data sheets (provided in the 2015 survey protocol) were completed for every basin that met the minimum USFWS inundation requirement at the time of sampling (Appendix A). All information was hand recorded in the field using the data sheet, with the most pertinent information (e.g., pool basin data, fairy shrimp presence/absence, and species identification) recorded. Photographs of the pool basins are included in Appendix B.

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SURVEY RESULTS

Basin Descriptions

A total of 19 basins were identified as suitable habitat for vernal pool branchiopods and were surveyed during the 2016/17 wet survey season. The basins within the study area are distributed in topographically flat areas primarily along Eastgate Mall Road in the City of San Diego and Moreno Avenue in Lakeside, CA. Seventeen (17) of the basins are considered road ruts. Road ruts are depressions that are typically formed by vehicular traffic within or immediately adjacent to roadways, generally lack aquatic vegetation, and are heavily disturbed by vehicular traffic moderately to highly disturbed, showing evidence of current roadside disturbance (i.e., parked vehicles, trailers, tire tracks, trash). Two basins (PWP 1 and PWP 8) are considered vernal pools. Vernal pools are depressions that retain sufficient water level, support vernal pool indicator plant species, and likely support vernal pool branchiopods (Note that no vernal pool branchiopods were detected within PWP 1 during the 2016/17 wet season surveys).

Fairy Shrimp Presence/Absence

Neither of the two federally listed endangered vernal pool branchiopod species (Riverside fairy shrimp or San Diego fairy shrimp) were identified during the 2016/17 wet season survey effort. During the 16 survey sampling visits, 12 basins (PWP 3, PWP 4, PWP, 5, PWP 6, PWP 8, PWP 9, PWP 11, PWP 12, PWP 13, PWP 14, PWP 15, PWP 17) were found to be occupied by versatile fairy shrimp (*Branchinecta lindahli*). A summary of the survey results is provided in Table 2. The distribution of basins sampled in the study area is presented in Figure 3 attached to this report.

Table 2 2015/16 Vernal Pool Branchiopods Survey Results*

Basin ID	Branchiopod Species Observed
PWP 1	None
PWP 2	None
PWP 3	Fairy shrimp present; Versatile fairy shrimp (Branchinecta lindahli)
PWP 4	Fairy shrimp present; Versatile fairy shrimp (Branchinecta lindahli)
PWP 5	Fairy shrimp present; Versatile fairy shrimp (Branchinecta lindahli)
PWP 6	Fairy shrimp present; Versatile fairy shrimp (Branchinecta lindahli)
PWP 7	None
PWP 8	Fairy shrimp present; Versatile fairy shrimp (Branchinecta lindahli)
PWP 9	Fairy shrimp present; Versatile fairy shrimp (Branchinecta lindahli)
PWP 10	None
PWP 11	Fairy shrimp present; Versatile fairy shrimp (Branchinecta lindahli)

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Table 2 2015/16 Vernal Pool Branchiopods Survey Results*

Basin ID	Branchiopod Species Observed
PWP 12	Fairy shrimp present; Versatile fairy shrimp (Branchinecta lindahli)
PWP 13	Fairy shrimp present; Versatile fairy shrimp (Branchinecta lindahli)
PWP 14	Fairy shrimp present; Versatile fairy shrimp (Branchinecta lindahli)
PWP 15	Fairy shrimp present; Versatile fairy shrimp (Branchinecta lindahli)
PWP 16	None
PWP 17	Fairy shrimp present; Versatile fairy shrimp (Branchinecta lindahli)
PWP 18	None
PWP 19	None

I certify that the information presented in this survey report and attached exhibits fully and accurately represents my work. Please contact Brock Ortega at bortega@dudek.com, Paul Lemons at plemons@dudek.com, or Danielle Mullen at dmullen@dudek.com if you have any questions regarding the contents of this report.

Sincerely,

Paul Lemons TE051248-5

Att: Figure 1, Regional Map
Figure 2A–C, Vicinity Map
Figures 3A–F, Aerial Map
Appendix A, Survey Data Forms
Appendix B, Photographs

cc: Brock Ortega, Dudek

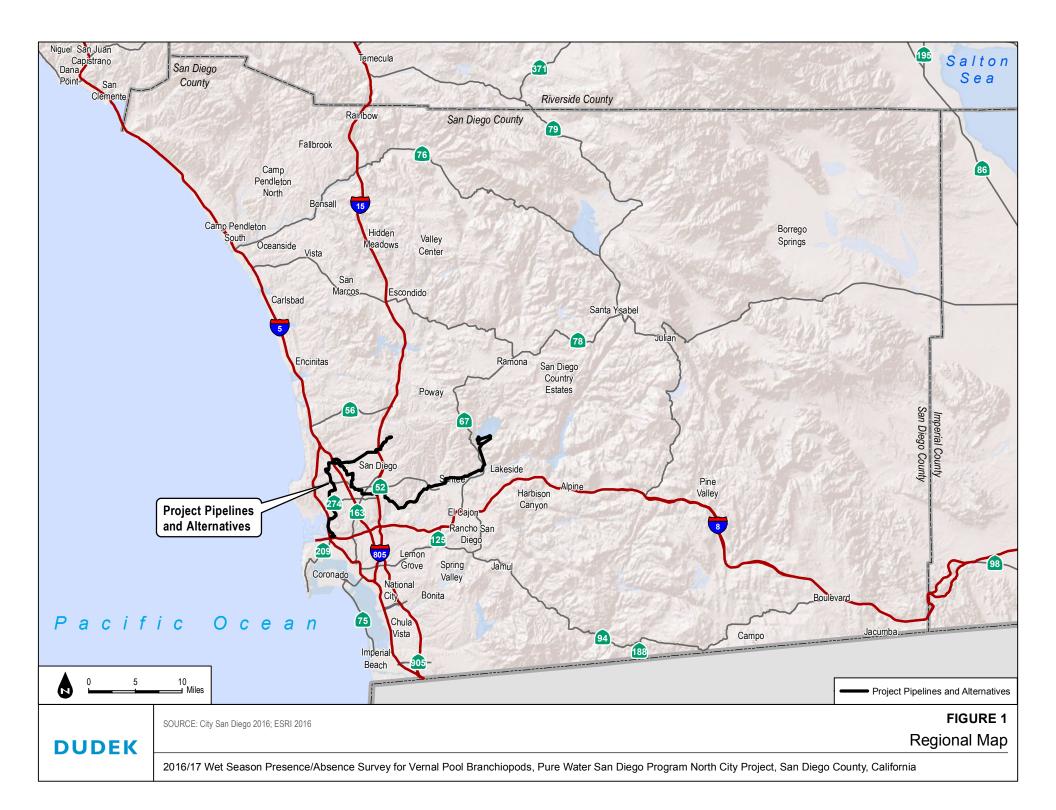
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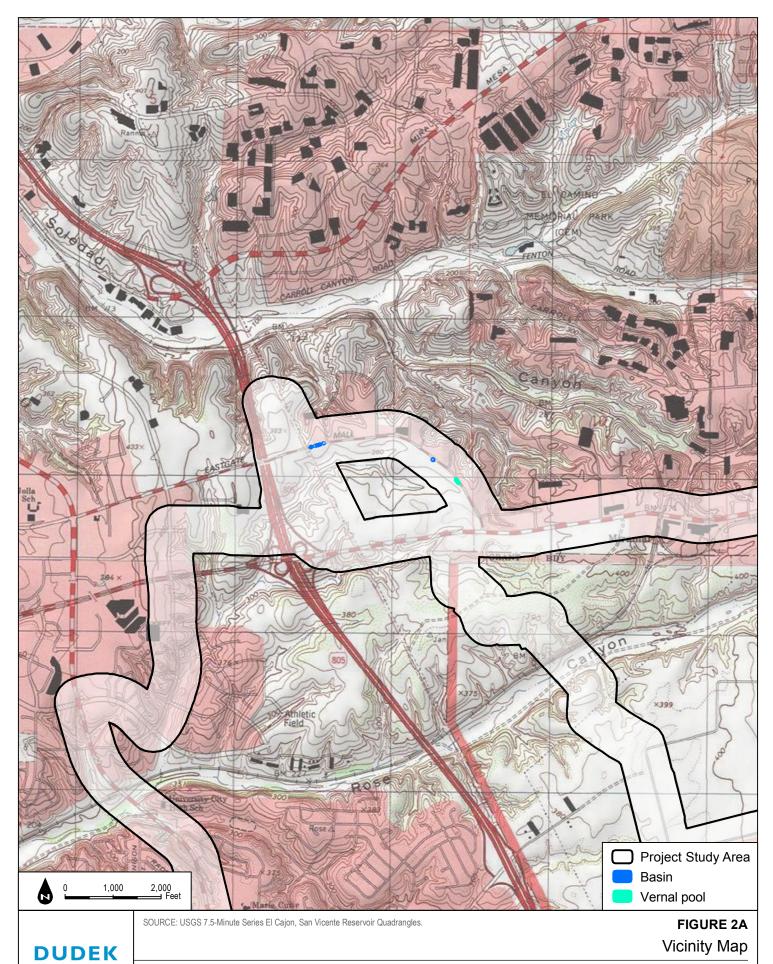
Eriksen, C., and D. Belk. 1999. *Fairy Shrimps of California's Puddles, Pools, and Playas*. Eureka, California: Mad River Press Inc.

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program. California Department of Fish and Game. October 1986.

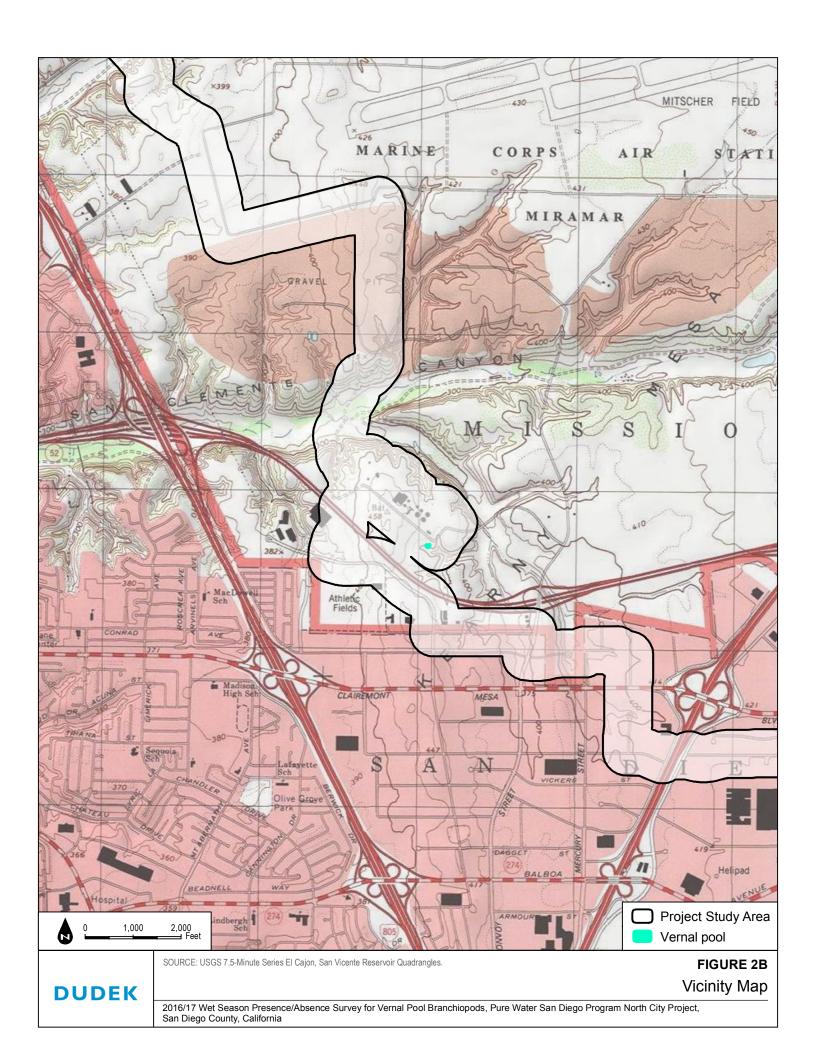
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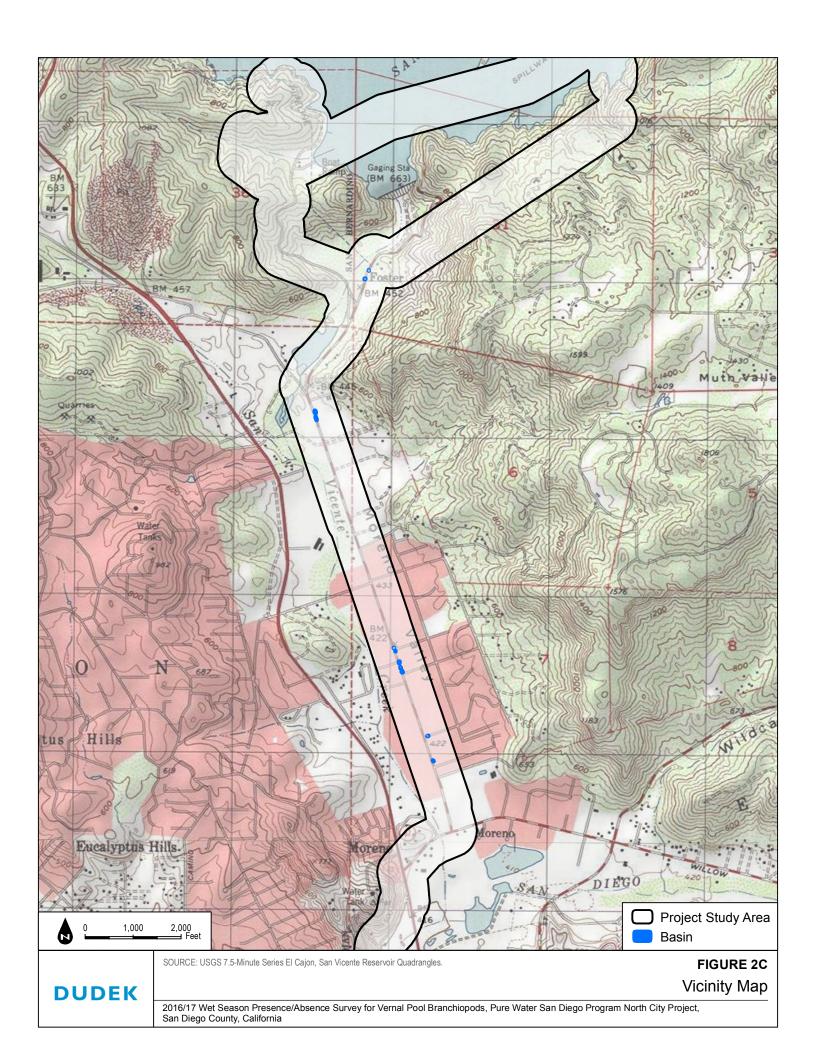
- Oberbauer, T., M. Kelley, and J. Buegge. 2008. Draft Vegetation Communities of San Diego County. Based on "Preliminary Descriptions of the Terrestrial Natural Communities of California," R.F. Holland, October 1986. March 2008.
- USFWS. 2015. Survey Guidelines for the Listed Large Branchiopods. Sacramento, California: USFWS Pacific Southwest Region. May 31, 2015.
- Weather Underground Inc. 2016–2017. Various Weather Station across San Diego County. Data accessed periodically from November 2016 through June 2017. http://www.wunderground.com

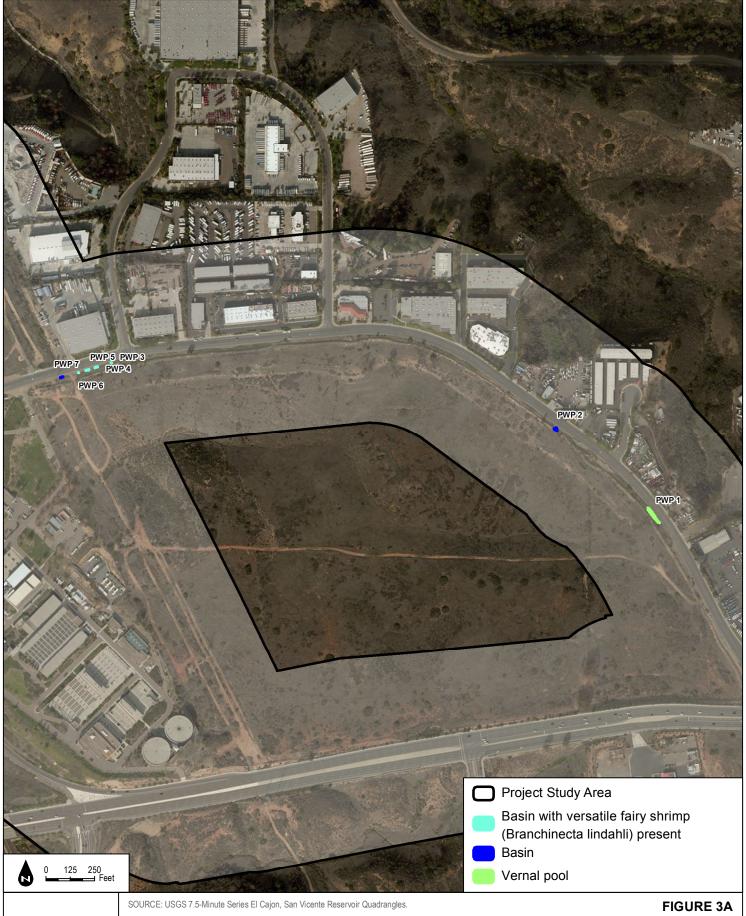




2016/17 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Pure Water San Diego Program North City Project, San Diego County, California







DUDEK

FIGURE 3A
Aerial Map

2016/17 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Pure Water San Diego Program North City Project, San Diego County, California



DUDEK

Aerial Map



2016/17 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Pure Water San Diego Program North City Project, San Diego County, California

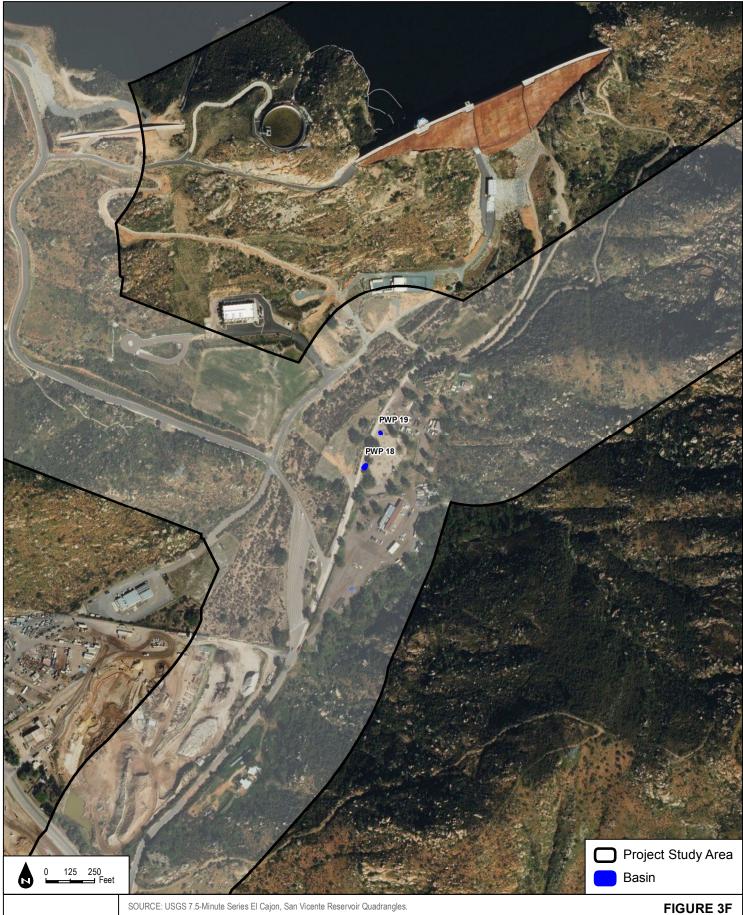


2016/17 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Pure Water San Diego Program North City Project, San Diego County, California



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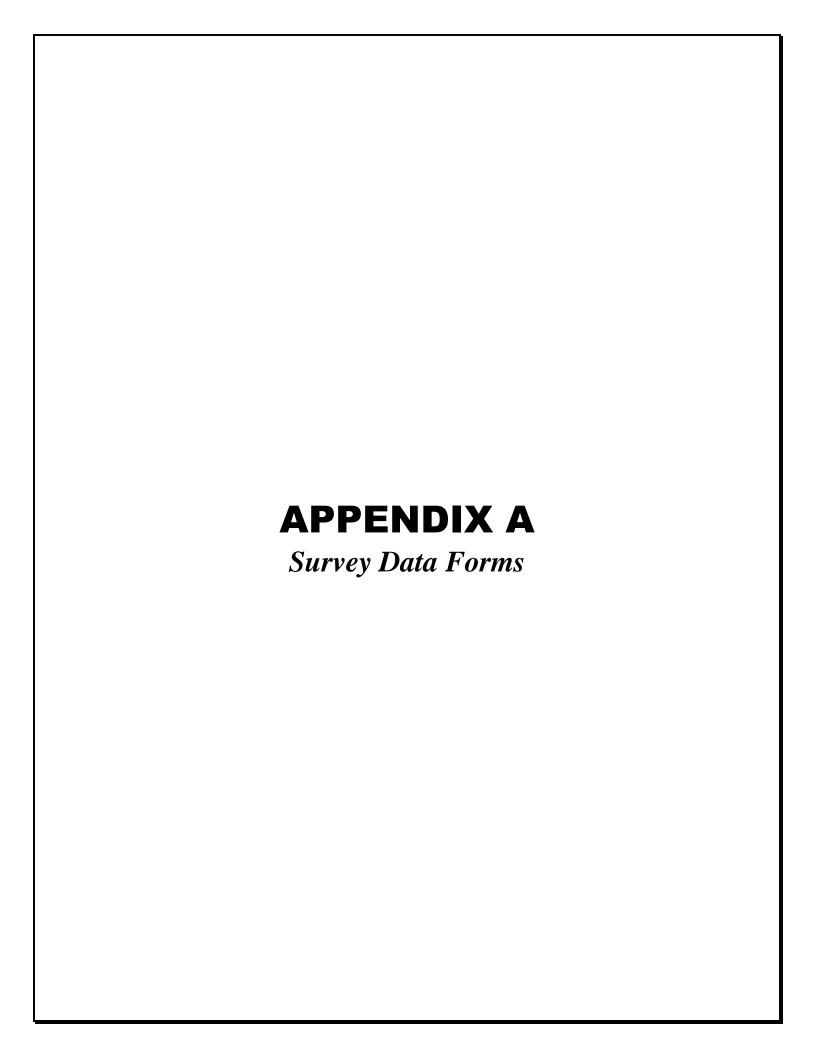
Aerial Map



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Aerial Map

2016/17 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Pure Water San Diego Program North City Project, San Diego County, California



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PWP 1		60	58	5	10	1×26	2×30											D,π, t	N.FS
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TWP 5		67	59	3	8	1×1	1×6											Ditt	NOFS
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PWP 10		67	68	4	8	2×3	3×8											DIL	NoF5
twp 11		67	67	3	8	乙处川	5×8											DITT	Nofs
PWPLZ		67	70	3	10	1.5×6	240											Ditt	NOFS
PWP 13		67	66	5	10		8×8	1003										Dπ	Hofs Sham
PWP 14		67	66	3	12	,5xZ	4×12	10'3 BRLI										D/TT	FS Present.

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed; D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Appen	dix 1. U.	S. Fisl	n and \	Nildlife S	Servic	e – Da	ıta.Sł	neet for	Wet	Seas	son	Sur	veys	For	Liste	ed La	rge E	Branchio	pods
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PWP 15	4.	Ga	66	6	10	Z×2	8×8	BRLI										D,tt	F5 present 201
PWP 15 PWP 16		69	66	4	8	,5×6	1×26											DIT	NOFS
PWP 17		69	67	6	12	3×20	5×30											DIT	No F3
PWP 18		69	GE	3	8	Zx3	5×18											DIT	NoFS
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Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

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(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appen	dix 1. U.	S. Fish	and V					eet for	Wet	Seas	son	Surv				ed La			pods
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er/a	UTM	Tèmp	o (*©)	Depth ((cm)		face ea x m)		Crusta	acean	ıs			Ins	sects	7.8	ninths ms)	ndition	Notes / Voucher information
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition	
PWP 1		60°¢	59°F	3	10	.5×5	Z×30											RIL	No F3
PWP 1 PWP 2 PWP 8 PWP 13		60	59	3	8	.5×Z	Z×8											Dit	No FS
PWP8		63	71	3	15	1.5×8	20x20											NP,UD	FS present collecte
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Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

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by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appen	Appendix 1. U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys For Listed Large Branchiopods ite or Project Name: PURE WATER County: San Diego Quad: See Report – Several Throughout San Diego County: URVEYOR / Permit Number: Paul Lemon's TE 051248-5															d La	rge E	Branchio	pods
Site or Project	Name: $\mathcal{P}_{\mathcal{C}}$	JRE L	DATER	Co	unty:<	SAUT	rego	Quad:	SEET	RERE	OR T	-5	TOV	nship みレー	THRUGH	tout.	Range	e: Piego Cou	Section:
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	UTM	Temp	o (*)	Depth (Depth (cm) Signal Signa			:€	Crusta		ns		Tookes Tookes	lns	ects	Les malifed	ninths ms)	ndition	Notes / Voucher information
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans FS	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera FI	Platyhelminths (flatworms)	Habitat Condition	
PWP 1	482406.52 3637971.61	63	51	9	10	2×30	2×30											D,TT	NOES
PWP Z	482253.80 3638105.ZZ	63	52	8	8	ZX8	Z×8											DIT	No ES
FWP 3	481556,56 3638203.8Z				8		1.5210												Dry
PWP 4	481532.83	63	51	6	10	1×1=	1×2											DIT	No ES
PWP 5	481519.59	63	50	7	8	146	1×6											Ditt	NoFS
PWP 6	3638187.97	63	51	6	10	1×3	126											Dit	NoFS
PWP 7	36318130.53	63	51	6	8	1.5×5												DIT	No FS
BPWP8	485061.26	Gle	5Ce	13	15	20020	20+20	BRLIODS			X							אד, עד)	8 present
PWP9	507278.06 3637951.13	68	60	C	6	3×8	3×8											力化	NoFS
PUT 10	507243,717 3638107.35	16Y	61	8	8	328	3×8											DIT	Noss
PWP 11	507077.48 3638515.05		63	8	8	5×18	5×18											thit	No FS
PWP 12	507067.13 3639540.17	68	64	10	10		2×10											DIT	NoFS
PWP 13	3638574.6	68	5 3	10	10	828	8×8	BRLL										DIT	FS present
PWP 14	567634.43 3638645.18	68	65	7	12	3×12	4×12											Dit	No FS

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Apper	ndix 1. U.	S. Fisl	n and \	Nildlife S	Servic	e – Da	ita She	et fo	r Wet	Seas	son	Sur	veys	For	Liste	d La	rge E	Branchio	pods
Site or Project	Name: Por	e hi	ATER	Co	unty:	SAND	660	Quad:	SE	UER.	<i>هد</i> -	SEE	Tov	vnship POR	:		Range	e:	Section:
SURVEYOR / P	ermit Num	ber: 🖘	Paul I	EMONS	S-TE	0512	48-5						*7:						
Date: 12/19/10	Time:		We	ather Co	ndition	is:		F,	V	nph	w	ككم	,		% c	C			
Continue	UTM:	Tem	p (°C)	Depth	(m x m)										sects		ninths ms)	ndition	Notes / Vouc
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average Est. Max. Present Anostracans Notostracans Copepods Copepods Coleoptera Coleoptera Culicidae Diptera Culicidae Diptera Culicidae Diptera (flatworm (flatworm (flatworm															
PWP 15 PWP 16 PWP 17 PWP 18 PWP 19	507024.91 3638664.95	68	66	6 10 10 88 88														DIT	NoFS
PWP 16	506520.27 3640117.92		63	5 8 1×20 1×20														Dit	NoF5
PWP 17	506513,76 3640160.06	90	64	6	12	320	5×30								Dit	NOFS			
PWP 18	506823.36 3641066.23	61	63	8	6 12 320 5×30													D,TT	NoFS
PWP 19	500847.40 3641059.89	67	63	6	6	5×16	8xCe										Ţ	Dit	NoFS
								-											

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Appen	dix 1. U.	S. Fish	and V	Vildlife S	Servic	e – Da	ta She	et for	r Wet	Seas	son	Surv	/eys	For	Liste	d La	rge E	Branchio	pods
Site or Project	Name: $\mathcal{P}_{\mathcal{L}}$	RE L	DATER	Co	unty:	SAUT	rego (Quad:	SEE	RERE	SK.	5	TOV	vnship Au	THRUG	HOUT 4	Range	EGO CO	Section:
SURVEYOR / P	ermit Num	ber: ´	Paul	LEMONS	S, TE	E0517	248-5												
Date: 12/26/6	Time: 090	50-16d	We	ather Co	ndition	ıs: <i>5</i> %-	6004	10-	5 m	ph i	WIN	Qs ,	20-	30°	1.cc				1
Y	UTM :	Temp) (%) °F	Depth	(cm)	Ar	face ea k m)	×	Crusta	acean	ıs			In	sects		inths ms)	ndition	Notes / Voucher information
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition	
PWP 1	482406.52 3637971.61	58	57	8	10	2730	2×30						27					D, Π	Nots
PWP Z	482253.80 3638105.ZZ	58	56	6	8	2×8	Z×8											DIL	No FS
FWP 3	481556,56 3638203.82	59	58	5	8	1×8	1.5×10											DIT	NoFS
PWP 4	481532.83	59	58	8	10	1×2	1×2											DIT	Nots
PWP 5	481519.59 3638192.16	59	58	6	8	1×6	1×6											DIT	NoFS
PWT 6	481505.26 3638187.94	59	58	7	10	146	126											D,T	NoFS
PWP 7	481478,58 363181 : 0.53	59	58	6	8	2×6	2×6											DIT	NoFS
3 PWP 8	485061.26 3633652.28	61	58	10	15	Z0x20	20420				k							NP	No FS
PWP9	507278.06 3637951.13	63	59	5	6	3×8	3×8											卫厂	N. FS
PWT 10	507243,717 3638107.35	63	59	7	8	328	3×8											D.T	No FS
PWP 11	507077.48 3638515.05	64	59	7	8	5 - 18	5×18											DIT	N. FS
PWP 12	507067.13 3638540.17	64	59	\$	10	240	2×10											D,TT	NoFS
PWP 13	507,051.25 3638574.63		59	8	10	8×8	8×8											D,T	N. FS
PWP 14	507034.43 3638645.18		58	9	12	3×12	4×12											D.T	NoFS

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appen	dix 1. U.S	S. Fish	and V	Vildlife S	Servic	e – Da	ta Sh	eet for	• Wet	Seas	son (Surv	eys	For	Liste	d La	rge B	ranchio	pods	
Site or Project	Name: PUR	ie W	ATER	Co	unty:{	SAUD	6GO (Quad:	SE	UER.	6L-	SEE	Tow	nship POR	i.		Range		Section:	
SURVEYOR / P	ermit Num	ber: \mp	Pur L	EMOUS	- TE	05121	18-5						•						•	
Date: 12/26/16	Time:			ather Cor				F,	· · · · · ·	nph	WIN	Ils	,		%c	E				
Contil	UTM -	Temp) (°C)	Depth (cm)	ace ea (m)	3	Crusta						sects		ninths ms)	ndition	Notes / Vouche information	er	
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelm (flatwor	Habitat Condition			
PWP 15 PWP 16 PWP 17 PWP 18 PWP 19	507024.91 3639664.95	64	57	8	10	828	8×8							ñ				D,tt	NoFS	
PWF 16	3640117,92	64	58	6	8	1220	1×20											D, IT	NoFS NoFS	
PWP 17	506513,76 3640160.06	64	58	8	12	5230	5×30											DIT	NoFS	
PWP 18	506823,36 3641066.23	64	58	5		5×18.											1	D, IT	NoFS	
PWP 19	506847.40 3641059.89	64	58	4	6	5-16	8x16										- (PIT	Noto	
																		×		
D.																				
																			2	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Appen	dix 1. U.	S. Fish	and V	Vildlife S	ervic	e – Da	ta Sh	eet for	Wet	Seas	son	Sur	/eys	For	Liste	d La	rge E	Fanchio	pods
Site or Project				Col	unty:<	Swit	rego	Quad:	SEE	RERE	SK.	5	TOV	vnship みレ	THEUG	HOUT "	Range タンプ	PIEGO CO	Section:
SURVEYOR / P	ermit Num	ber:	PAUL	LEMONS	J I E	-0517	7468-6	•											
Date: 1/2/17	Time: 62	W-150	We	ather Cor	ndition	18:54-	61 0	F, 0-1	5 m	ph	WIN	DS ,	10	フ %	1.cc				
. · · · · · · · · · · · · · · · · · · ·	UTM :	Temp °!	o (°C) F	Depth (cm)	Ar	face ea k m)	:(40	Crust	acear	ns			In	sects		ninths ms)	ndition	Notes / Voucher information
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition	
PWP 1	482406.52	5H	54	PESTA.	10	3×40	200	3240					5					D. H	No F3
PWP Z	482253.80 3638105.ZZ	54	53	8	8	4×20	2288	6,×30										DIT	No F3
FWP 3	481556,56 3638203.82	54	55	Q	8	2×10	1.520											D,T	NOFS
PWP 4	481532.83	54	55	10	10	1×2	1×2											DIT	No FS
PWP 5	481519.59 3638192.16	55	56	Q	8	126	1×6											D,TT	NoFS
PWP 6	481505.26	55	56	10	10	1×6	126										_	ZII	No FS
PWP 7	481478.58 36318130.53	55	56	8	8	2×6	2×6											DIT	NoFS
BPWP8	485061.26 3653652.28	55	56	15	15	2020	20420	BRLI										iD, NP	Z & Branch
PWP 9	587278.06 3637951.13	56	57	6	6	26328	3×8											DIT	No FS
PWT 10	507243,717 3638107.35	56	57	8	8	3×8	3×8											DIT	No FS
PWP 11	507077.48 3638515.05	58	56	8	8	4×8	5×8											DITT	NOES
PWP 1Z	507067.13 3638540.17	58	57	10	10	2×10	2×10					*						DIT	NoFS
TWP 13	501051.25 3638574.6	2,	56	10	10	828	8×8											DIT	No FS
PWP 14			56	12	12	4×12		L										D, TT	NoF5

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed; D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Apper	ndix 1. U.	S. Fish	and V	Vildlife S	Servic	e – Da	ta Sh	eet fo	r Wet	Seas	son	Sur	eys	For	Liste	d La	rge E	ranchio	pods	
Site or Project	Name: Pur	e W	ATER	Co	unty:	SAND	660	Quad:	SE	VER	6L-	SEE	Tow	rnship	i.		Range):	Sect	tion:
SURVEYOR / P	ermit Num	ber: 🖘	Pull	EMONS	- TE	:0512	48-5													
Date: 1/2/17	Time:		We	ather Co	nditior	ns:		F,	V	nph	wi	ككم	,		% c	E				
Contil	UTM. (Northing,		o (%)	Depth	(cm)		face ea k m)	5	Crusta	acean	ıs			Ins	sects		ninths ms)	ndition	Notes / V informa	
Feature ID #	Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition		
PWP 15 PWP 16 PWP 17 PWP 18 PWP 19	507024.91 3639664.95	60	56	10	10	828	8×8											Dit	NOFS	,
PWP 16	506520.27 3640117.92	61	57	~	8	1×20	1×20											D.TT	NoFS NoFS	•
PWP 17	506513,76 3640160.06	61	55	12	12	5×30	5×30											DIT	NoF3	
PWP 18	506823.36 3641066.23	61	55	8	8	5×18	5×18										, II c	カオ	NoFS	
PWP 19	506847.90 3641059.89	61	55	G		8×16											1	D,TT	Nofs	
																		×		
			•																	
																-54				

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Appen	dix 1. U.	S. Fist	n and V	Vildlife S	ervic	e – Da	ta Sh	et for	Wet	Seas	son	Sur	veys	For	Liste	d La	rge E	Branchio	pods
Site or Project					unty:<	Saut	REGO	Quad:	SEE	RERE	PRI	5	EVER	AL_	THRUG	Hout "	Range SAL I	e: Piego Co	Section:
SURVEYOR / P	Time: OSZ			LEWO'S	', L <i>E</i>	: 05 l	-18-5												
	UTM :	Temp		Depth (Sur Ar	face ea x m)		Crusta						sects		inths ns)		Notes / Voucher information
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition	
PWP 1	482406.52 3637971.61	60	59	10	10	2×30	2×30						4					D/IT	NoFS
PWP Z	482253.80 3638105.22	60	61	8	8	2x8	Z×8											Ditt	No 63
PWP 3	481556,56 3638203.82	60	GL	8	8	1.5×10	1.5×10											D,T	N. FS
PWP 4	481532.83 3638196.63	60	61	10	10	1×Z	1×2											D,TT	NoFS
PWP 5	481519.59	60	61	8	8	146	1×6											DIT	NoFS
PWP 6	481505.26	60	61	10	10	1×6	126											D,TT	No FS
PWP 7	481478,58 363181 3 0.53	1-	61	8	8	246	2×6											DIT	NoFS
BPWP8	485061.26 3633652.28	61	63	15	15	20,20	20+20	BRU										NP	BRL1 - 100;
PWP9	507278.06 3637951.13	62	63	6	6	3×3	3×3											DIT	No FS
PWT 10	507243,717 3638107.35	62	64	8	8	3×8	3×8											DIL	No FS
PWP 11	507077.48 3638515.05	63	63	8	8	5×8	5×8											DIT	Nofs
PWP 1Z	507067.13 3638540.17		64	10	10	240	2×10											Dit	Nofs
PWP 13	501051.25 3638574.63	63	63	10	10	848	8×8											DIL	No FS
PWP 14	507034.43 3638645.18	63	63	(7	12	4×12	4×12											D,11	NoFS

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Appen	dix 1. U.S	3. Fish	and V	Vildlife S	Servic	e – Da	ta She	et for	Wet:	Seas	son	Surv	eys	For	Liste	d La	rge E	Branchio	pods	
Site or Project	Name: Por	e W	ATER.	Co	unty:{	SAUD	EGO (Quad:	SE	VER	6 L-	SEE	Tow	vnship POR); .T		Range	9:	•	Section:
SURVEYOR / P	ermit Num	ber: 🗐	Pur L	EMONS	- TE	0512	18-5													
Date: 1/1/17	Time:		Wea	ather Cor	ndition	ıs:	0	F,	V	nph	wi	ككم	,		% c	€				
Contd	UTM .	Тетр	o (°C)	Depth ((cm)	Surf Ard (m >	ace ea		Crusta	acean	ıs			Ins	sects		ninths ms)	ndition		es / Voucher formation
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition		
PWP 15 PWP 16 PWP 17 PWP 18 PWP 19	507024.91 3639164.95	63	64	10	10	828	8×8											BIT	No	ES
PWP 16	506520.27 3640117.92	63	64	8	8	120	1×20											Dit	No	=5
PWP 17	506513.76 3640160.06	63	64	12	12	5×30	5×30											Ditt	No	FS
PWP 18	506823.36 3641066.23	63	63	8	8	5×18	5×18											SIT	No No	
TWP 19	506847.90 3641059.89	63	63	6	6	346	3×16										-	DIT	No	FS
																			15	
				22																

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appen	ndix 1. U.S	S. Fish	and V	Vildlife S	Servic	e – Da	ta Sh	eet for	Wet	Seas	son	Sur	veys	For	Liste	d La	rge E	Branchio	pods
Site or Project					unty:<	SAUI	REGO	Quad:	SEE	RERE	AL.	-5	TOV	wnship AL	o: Theog	Hast "	Range SAN D	o: Piego Co	Section:
SURVEYOR / P		ber: 0- 560	Paul Vei	LEMONS	$=$ $\neg TE$	=0517	<u> </u>	•											
	UTM	Temp		Depth			ace ea		Crusta						sects		iinths ns)	dition	Notes / Voucher information
Feature ID#	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition	
PWP 1		55	55	10	10	2230	2×30						ă.					Dit	No FS
PWP Z	482253.80 3638105.ZZ	55	55	8	8	2-8	Z×8											D,TT	No FS
FWP 3	481556,56 3638203.82	55	55	8	8	15×10	1.5×10											D,TT	No FS
PWP 4	481532.83 3638196.63	55	58	10	10	1×2	1×2											DIT	No FS
PWP 5	481519.59 3638192.16	56	56	8	8	126	1×6											DIT	Nofs
PWP 6	491505.26 3639187.97	56	58	10	10	146	126											DH	No ES
PWP 7	481479,58 363181 5 0.53	56	58	8	8	2.6	2×6											DIT	NOFS 10
BPWP8	485061.26 3633652.28	56	65	12	15	20x20	20+20	BRLI										NP	NoFS 48,48 Branch Ind collected
PWP9	507278.06 3637951.13	57	58	6	6	828	8×8	BRLI										DIT	10 Stance
PWT 10	507243,71 3638107.35	57	58	7	8	3×8	3×8											D,TT	No FS
PWP 11	507077.48 3638515.05	58	58	6	8	5×8	5×8											D,T	No FS
PWP 1Z	507067.13 3638540.17	58	58	8	10	2×0	2×10											カオ	No FS
PWP 13	507051.25 3638574.63		58	10	10	848	8×8											D,T	NoFS
PWP 14	507034.43 3638645.18		58	10	12	4×12	4x1Z	BRLL										D.T	18 B. collected

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Appen	dix 1. U.S	3. Fish	and V	Vildlife S	Servic	e – Da	ta Sh	eet for	Wet	Seas	son	Surv	/eys	For	Liste	d La	rge E	Branchio	pods	
Site or Project	Name: P	e W	ATER	Co	unty:{	SAND	640	Quad:	SE	ver.	6L-	SEE	Tov	vnship POR	÷		Range	: :	S	ection:
SURVEYOR / P	ermit Num	ber: 🗐	PAUL L	EMONS	- TE	0512	18-5												1	
Date: 1/16/17	Time:		We	ather Cor	ndition	ıs:	0	۴,	V	nph	wi	ككم	,		% c	E				-
contl	UTM:	Temp) (°C)	Depth ((cm)	Surl Ar (m)	ea		Crusta	acean	ıs			Ins			ninths ms)	dition		/ Voucher mation
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition		n linlahli
PWP 15 PWP 16 PWP 17 PWP 18 PWP 19	507024.91 3639664.95	61	59	6	10	3×8	8×8	BRLL										D,TT.	28,18	Almahii Branety
PWP 16	3640117.92	62	60	8	8	1×2	1×20											That	NoF	
PWP 17	3640160.06	62	60	10	12	5×30	5430											DIT	NoF	
PWP 18	506823.36 3641066.23	63	60	8	8	5×18	5×18										- 1	DIT	Nos	
PWP 19	506847.90 3641059.89	63	60	6	6	3×16	3xlCo										1	DIT	NOF	
																		*		_
				4																
			1																	
															-					
									f);											

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Apper	ndix 1. U.	S. Fist	and V	Wildlife S	Servic	e – Da	ta Sh	eet fo	r Wet	Seas	son	Surv	veys	For	Liste	d La	rge E	Branchio	pods
Site or Project	Name: P	DRE L	DATER	Co	unty:<	SAUT	REGO	Quad:	SEE	RERE	OR T	5	TOV	vnship みレ	i: Theoc	HOUT "	Range るル D	e: Piego Co	Section:
SURVEYOR / F	Permit Num	ber:	PAUL	LEMONS	> 1/	= 0517	7468-6)											1
Date: 1/23/17	Time:	0-152	. We	ather Co	nditior	18:54-	560	F_3-1	5 m	ph.	WIL	ls ,	100	7-98	1.cc	,	Som	c rain	-
AD 1	UTM :		(%)	Depth (Sur Ar	face ea k m)		Crusta						sects		inths ns)		Notes / Voucher information
Feature ID#	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition	
PWP 1	482406.52	54	56	10	10	2×30	2×30	>8×7	0 (fb	Del	-)							D.TT	No FS
PWP Z	482253.80 363B105.ZZ	54	57	જ	8	2×8	Z×8											TIT	No FS
FWP 3	481556,56 3638203.82	54	56	Q	જ	1.540	1.520											D,TT	No FS
PWP 4	481532.83	54	58	10	10	1×2	1×2											DIT	N.FS
PWP 5	481519.59	54	57	8	8	1-6	1×6											カオ	NoFS
PWP 6	481505.26	54	57	10	10	126	126											九十	NOFS
PWP 7	481478.58 36318180.53	54	56	8	8	1.546	2×6											RIT	NofS
BPWP8	485061.26	55	57	15	15	ZOXZO	20+20	BRLI										NP	B. I market
PWP9	507278.06 3637951.13	55	56	8	6	5×5	3×3											DIT	No FS - area FI
PWT 10	507243,77 3638104.35	56	56	10	8	4210	3×8											DIT	No F5- Flooled
PWP 11	507077.48 3638515.05	- .	56	10	8	10×25	5×8											DIT	No F5
PWP 1Z	507067.13 3638540.17		57	10	10	4×15	2×10											DIT	NoES
PWP 13	509059.25		57	10	10		8×8								*			DIT	NoFS
PWP 14	567634.43 3638245.18	56	56	12	12		4×12				175							DIT	NOF V

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Appen	idix 1. U.	<u>S. Fish</u>	n and \	Nildlife S	Servic	e – Da	ata Sho	eet fo	r Wet	Seas	son	Surv	<i>r</i> eys	For	Liste	d La	rge B	Branchi	pods	j
Site or Project	te or Project Name: PURE WATER County: SAN DEGO Quad: SEVERAL - SEE Township: Range: SE JRVEYOR / Permit Number: Pur LEMONS - TE051248-5 ate: 1/23/17 Time: 2000-1520 Weather Conditions: 25456 of 3-15 mph winds, 100-90% occ														Section:					
SURVEYOR / P	ermit Num	ber: 🐬	PALA	-EMONS	S-TE	:0512	48-5													
Date: 1/23/17	Time 700	-1520	We	ather Co	nditior	ns:	4:560	F,3-	15 v	nph	w	nds	, 100	>-9C	0/0c	E				-
Contil	UTM -	Temp		Depth		Sur Aı	face ea x m)		Crusta						sects		ninths ms)	ndition		es / Voucher formation
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition		Pain
PWP 15 PWP 16 PWP 17 PWP 18 PWP 19	507024.91 3639664.95	56	56	10	10	3 20120	8×8												No FS	Rosel
PWP 16	506520.27 3640117.92	56	56	8	8	F	1×20													1
PWF 17	506513.76 3640160.06	56	56	12	12	0	5×30													
PWP 18	506823.36 3641066.23	56	56	8	8	DE	5×18										1.5			N
PWP 19	500847.40 3641059.89	56	57	6	6	D	3×16										,			
						ALL	wet	ė										<u> </u>		
																				:
J.																				-1

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Appen	ndix 1. U.	S. Fist	and V	Wildlife S	Servic	e – Da	ata Sh	eet for	· Wet	Seas	son	Sur	eys	For	Liste	d La	rge E	ranchio	pods
Site or Project				Co	unty:<	Swit	REGO	Quad:	SEE	RERE	OR.	5	TOV	wnship AL	o: Theog	Haut .	Range	o: Piego Co	Section:
SURVEYOR / P	ermit Num	ber:	PAUL	EMONS	17	E0517	248-5												
Date: 1/30/17	Time:	7-1440	vve	ather Col	ndition	18: 51-	62°	F, 0-	7 m	Ph	WIW	ر کھ	10-2	w°	1.cc				
. N	UTM -		o (%)	Depth ((cm)	Ar	face rea x m)		Crust	acear	ns			ln	sects		ninths ms)	dition	Notes / Voucher information
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition	
PWP 1	482406.52	60	50	1.564.	超针	3×30	3×30											Dit	No FS.
PWP Z	482253.80 363B105.ZZ	60	46	8	8	Zx8	Z×8											D,TT	NoF3
FWP 3	481556,56 3638203.82	61	47	3	જ	.5×3	1.5210											DIT	N.FS
PWP 4	481532.83	61	48	6	10	1×2	1×2	BRLI										DIT	18 ,103
PWP 5	481519.59	62	49	6	8	1×6	1×8	BRLI			X	2						DIT	18 ,10'5
PWP 6	481505.26 3638187.97	62	47	3	10	1×2	126	BRLI			×					X		DIT	18 B. linkalli
PWP 7	481478.58 36318180.53		50	3	8	5×5	2×6				X							PH	No FS
BPWP8	485061.26 3633652.28	1	60	12	15	20420	20+20	BRLI										NP	3 8. linkell
PWP 9	537278.06 3637951 13	67	56	4	6	2×7	3×8											DIT	NoFS
PWT 10	507243,717 3638107.35	166	57	4	8	2×2	3×8											DIT	NoFS
PWP 11	507077.48 3638515.05	67	57	5	8	3×8	5×8											2,11	NOFS
PWP 1Z	507067.13 3638540.17	41	57	4	10	2×6	2×10											D,TT	No F5
PWP 13	3638574.6	68	58	5	10	424	8×8											DIT	NOFS
PWP 14	567634.43 3638645.18	68	58	6	12	442	4x1Z											D,TT	NoFS
Notos: Fill in abbroviate	- d 6 A				-41			م ماد - ملات		A 4-		NI_		A I		mar I laa	Seat hou		

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Appen	dix 1. U.	S. Fish	and \	Wildlife S	Servic	e – Da	ta She	eet fo	r Wet	Seas	son	Surv	/eys	For	Liste	d La	rge E	ranchio	pods
Site or Project	Name: P	e W	ATER	Co	unty:	SAND	6G0 (Quad:	SE	VER.	6L-	SEE	Tow	rnship POR	÷		Range);	Section:
SURVEYOR / P	ermit Num	ber: 🗦	Più l	EMONS	- TE	:0512	48-5			_									
Date:	Time:		We	ather Co	ndition	ns:		F,	V	nph	wi	ككم	,		% c	E			-
Cont's	UTM 2	Temp	o (°C)	Depth	(cm)	Ar	face ea k m)		Crusta	acear	าร			Ins	sects		ninths ms)	ndition	Notes / Voucher information
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition	
PWP 15 PWP 16 PWP 17 PWP 18 PWP 19	507024.91 3629664.95	69	61	6	10	4×5	8×8											Ditt	N. FS
PWF 16	506520.27 3640117.92	F7 .	60	6	8	1420	1×20											D,TT	No FS
PWF 17	506513.76 3640160.06	70	60	Ce	12	4x25	5×30											D.TT	No FS
PWP 18	506823.36 3641066.23		58	6	8	4×16	5×18										= 1	DIT	No FS
TWP 19	506847.90 3641059.89	71	60	3	6	3×8	3×1Ce										-	DIT	NoFS
																		*	
																			9 9
				-										Œ.					
1																			

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Appen	dix 1. U.	S. Fish	and V	Vildlife S	ervic	e – Da	ta She	et for	Wet	Seas	son	Sur	/eys	For	Liste	ed La	rge E	Branchio	pods
Site or Project	Name: \mathcal{P}	PRE L	DATER	Co	unty:<	SAUT	rego	Quad:	SEE	REFE	The last	-5	TOW	vnship AL	o: Through	Hast .	Range	e: Piego Cou	Section:
SURVEYOR / P	ermit Num	ber:	PAUL	LEMONS	TE	E0512	148-5												- 0)
Date: 2/6/17	Time: Onc	0-152	y Wea	ather Co	ndition	IS: 56.	-6101	1-1	0 m	Ph	WIN	ls ,	100	7°	locc	-			-
	UTM :	Temp	o (°C)	Depth (cm)		face ea ‹ m)		Crusta	acear	ns			In	sects		ninths ms)	ndition	Notes / Voucher information
Feature ID#	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition	
PWP 1	482406.52				10		3×30						5,					Dit	Dry.
PWP Z	482253.80 3638105.ZZ	57	51	4	8	124	Z×8											DIT	my NoFS
FWP 3	481556,56 3638203.82				8		1.5×10											DIT	Dry
PWP 4	481532.83 3638196.63				10	21	1×2											DIT	Dry
PWP 5	481519.59 3638192.16	58	52	4	8	.5×2	1×8											Dit	NoFS
PWP 6	481505.26 3638187.97				10		126											DIT	Dry
PWP 7	481478.58 363181 30 .53				8	2	2×6											DIT	Dry
BPWP8	485061.26 3633652.28	59	55	6	15	10×15	20420	BRL1										NP	BRY 28
PWP9	507278.06 3637951 13	60	54	3	6	ixZ	3×8											Dit	No F5
PWT 10	507243,77 3638107.35		54	3	8	1×1	3×8											Dit	N.FS
PWP 11	3638515.05		55	3	8	1×.5	5×8											2,11	N-FS
PWP 1Z	507067.13 3638540.17				10		2×10											Dit	Dry
PWP 13	3638574.63	1			10		8×8											D,++	Dry
PWP 14	3638645.18				12		4x1Z		1									Dit	Dry
lotes: Fill in abbreviate	d names of Anos	etracane a	nd Notoeti	racane for all	othere in	dicate pr	acanca w	ith a chec	k mark	Anneti	racan s	and No	toetrac	can Ab	broviatio	ne: Hee	firet have	a letters of as	nua and anasias nom

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = tracks, T by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appen	dix 1. U.S	S. Fish	and V	Viidlife S	Servic	e – Da	ta She	et for	· Wet	Seas	son S	Surv	eys	For	Liste	d La	rge B	ranchio	pods
Site or Project	Name: P	e W	ATER	Co	unty:〈	SAND	660	Quad:	SE	VER	6L-	SEE	Tow	nship	:		Range);	Section:
SURVEYOR / P	ermit Num	ber: 🔫	Pur L	EMONS	- TE	0512	48-5												
Date:	Time:		We	ather Cor	ndition	s:	0	F,	V	nph	WIN	کگہ	,		% c	E			-
2/6/it	UTM.	Temp °€		Depth (cm)	Surf Ar (m)	face ea		Crusta					Ins	sects		ninths ms)	dition	Notes / Voucher information
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition	
PWP 15 PWP 16 PWP 17 PWP 18 PWP 19	507024.91 3639664.95	61			10		8×8											Dit	Dry
PWP 16	506520.27 3640117.92				8		1×20											Dit .	Dry
PWP 17	506513 76 3640160.06				12		5×30											DIT	Dry
PWP 18	506823.36 3641066.23		59	4	8	ZxCe	5×18										- 1	D,TT	NoFS
PWP 19	506847.90 3641059.89				6	e s	3×16										,	PH	NoFS Dry
																		*	/
							E .C												

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Appen	dix 1. U.S	S. Fish	and V	Vildlife S	Servic	e – Da	ta She	et fo	r Wet	Seas	son	Sur	/eys	For	Liste	d La	rge E	ranchio	pods
Site or Project	Name: P	RE L	DATER	Co	unty:دِ	SAUT	rego (Quad:	SEE	RERE	ACT.	-5	TOV	vnship Au	THEUG	HOUT "	Range	o: Piego Co	Section:
SURVEYOR / P				LEMONS	, TE	E0517	148-5		2										.,
Date: 2/13/17	Time: 084	0-150		ather Cor	ndition	15:61-	74 04	5,6-	4 m	Ph	WIN	ر کھ	0-	60°	locc				-4
20 (Fe	UTM -	Temp	o (°C)	Depth (cm)	Surf Ar (m)			Crust	acear	ıs			In	sects		ninths ms)	ndition	Notes / Voucher information
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition	
PWP 1	482406.52. 3637971.61	64	66	10	15	3×30	3 x30											D,1T	No FS
PWP Z	482253.80 3638105.ZZ	64	68	8	18	3×8	¥×8											D,TT	No FS
FWP 3	481556.56 3638203.82	63	We	6	8	1×6	1.5×10											D,TT	NoFS
PWP 4	481532.83	62	68	6	10	1×2	1×2											DIT	NOFS
PWP 5	481519.59	62	65	4	8	5×4	1×8									7		D,T	NOFS
PWP 6	481505.26	61	64	6	10	1×5	126											DIT	No FS
PWP 7	481478.58 363181 3 0.53	10	65	4	8	1.5×6	2×6											DIT	NoFS
BPWP8	485061.26 365452.28	65	674	9	15	20020	20420											NP	NoFS, tadpoles
PWP9	507278.06 3637951.13	72	66	5	6	6×6	B×8											DIT	NOES
PWT 10	507243,77 3638107.35	72	67	4	8	2×6	3×8											Ditt	No FS
PWP 11	507077.48 3638515.05	72	68	6	8	5×8	5×8			-								DIT	NoFS
PWP 12	507067.13 3638540.17	72	67	€3	10	ixl	2×10											DIT	NoFS
PWP 13	501051.25 3638574.6	72	Colo	5	10	2×8	8×8											Ditt	NoF3
PWP 14	567634.43 3638645.18	72	70	5 23	12	4×10	4x1Z											DIT	N.F3

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

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0	NTI	$\mathcal{N}\mathcal{V}$	ED

Appen	dix 1. U.S	3. Fish	n and V	Vildlife S	Servic	e – Da	ta She	et for	· Wet	Seas	son	Surv	eys	For	Liste	d La	rge E	Branchio	pods	
Site or Project	Name: Por	e W	ATER	Co	unty:{	SAND	660	Quad:	SE	UER.	6L-	SEE	Tow	rnship POR	÷		Range	9:	•	Section:
SURVEYOR / P	ermit Num	ber: 🖪	Paul L	EMONS	- TE	.0512	18-5													
Date: 2/13/17	Time:		Wea	ather Co	ndition	ıs:	0	F,	V	nph	wi	كلم	,		%c	E-				
contid	UTM (Northing,	Temp	o (°C)	Depth (cm)	Surf Ard (m x	ace ea		Crusta						sects		ninths ms)	ndition		s / Voucher formation
Feature ID#	Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition		
PWP 15 PWP 16 PWP 17 PWP 18 PWP 19	507024.91 3639664.95	73	70	3	10	Cex8	8×8											DIT	No	FS
PWP 16	506520.27 3640117.92	1 6	70	4	8	1×20	1×20											DIT	Nos	
PWP 17	506513 76	73	68	5	12	5×20	5×30											Ditt	No	F3
PWP 18	506823,36 3641066.23	74	67	3	8	5×12	5×18											D,TT	No f	-3
two 19	3641066.23 500847.90 3641059.89	74	70	3	6	3×14	3×Ce										1	D.TT	No	FS
				*																
																128				
																				(8)

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Appen	dix 1. U.	S. Fish	and V	Vildlife S	ervic	e – Da	ta She	et for	Wet	Seas	son	Sur	/eys	For	Liste	d La	rge B	ranchio	pods
Site or Project					unty:<	Saut	REGO (Quad:	SEE	Rence	The second	-5	TOV	vnship AL): Thleug	HOUT "	Range	o: Viego Cov	Section:
SURVEYOR / P				EMONS	TE	20512	48-5												
Date: 2/20/17	Time: 080	めー ドな	Wea	ather Cor	ndition	s: 59-	7107	F, 0-0	6 m	ph i	WIN	ls,	100	-40%	locc	•6			-
in 9	UTM .	Temp) (°C)	Depth (cm)	Surf Ar (m)	ea		Crusta	acean	ıs			ln:	sects		ninths ms)	ndition	Notes / Voucher information
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition	
PWP 1	482406.52	7(74	10	10	2430	2×30						i.					Dit	N. F3
PWP Z	482253.80 3638105.22	71	74	2 9	8	2×8	Z×8											D,TT	NoFS
FWP 3	481556.56 3638203.82	71	76	8	8	1.540	1.5×10	10.3										D,TT	BB BR Timm.
PWP 4	481532.83 3638196.63	71	75	8	10	1×Z	1×2	10'3										Dit	22 3RL
PWP 5	481519.59 3638192.16	71	75	8	8	1×6	1×6	10'5										DIT	28 BRL1
PWP 6	481505.26 3638187.97	71	77	7	10	146	126											DIT	No FS
PWP 7		71	75	6	8	1x6	2×6		-									TIT	No ES
3 PWP 8	485061.26 3633652.28	71	70	10	15	20x25	20420	BRL(NP	3 BRL1, 10'S
PWP9	567278.06 3637951.13	68	Cole	5	6	4×10	8×8	BRL										DIT	17 BRL1, 10'5
PWT 10	507243,717 3638107.35	68	66	7	8	5×8	828											DIL	No FS
PWP 11	507077,48 3638515.05	69	de	7	8	528	5×8	BRH										Ditt	1 8 BRLL 10'S
PWP 1Z	507067.13 3638540.17		67	6	10	ZUIO	2×10	BRLL										DIT	2 8 BRL1, 104
PWP 13	507051.25 3638574.6	70	Ge	10	10	15×50	8×8											DIT	NoFS, Flooded
PWP 14	567634.43 3638645.18	70	\$76	7	12	4x12	4x1Z	BRL										DIT	Z8BR, 10'S

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appen	dix 1. U.	S. Fist	n and V	Vildlife S	Servic	e – Da	ta Sh	eet foi	Wet:	Seas	son	Sur	/eys	For	Liste	d La	rge B	ranchio	pods	
Site or Project	Name: P	e W	ATER	Co	unty:	SAND	EGO (Quad:	SE	JER.	6L-	SEE	Tow	vnship	-		Range) :	S	Section:
SURVEYOR / P	ermit Num	ber: 🗆	Puul L	EMOUS	- TE	:0512	18-5													
Date: 2/20/17	Time:			ather Co				₹,	V	nph	w	ككم	,		% c	E-				-
contil	UTM (Northing,	Temp	(*@)	Depth ((cm)	Surf Arc (m >	ea		Crusta						sects		ninths ms)	ndition		/ Voucher rmation
Feature ID#	Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition		
PWP 15 PWP 17 PWP 18 PWP 19	507024.91 3639664.95	70	68	5	10	8×8	8×8							_				J.11	NOF	3
PWP 16	506520.27 3640117.92	71	70	8	8	4×20	1×20											DIT	NoF	-3
PWP 17	506513,76 3640160.06	71	70	8	12	5×30	5×30	BRLI	14:1									J.t.	488	沢
PWP 18	506823.36 3641066.23	71	69	8	8	5×18	5×18										- 1	Dit	NOF	3
two 19	3641066.23 506847.90 3641059.89	71	68	6	6	3×16	3xlc										1	DIT	No F	3
																		*		
									15											
																- 20				
																				5.53

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Appen	idix 1. U.	S. Fist	n and V	Wildlife S	Servic	e – Da	ta She	et fo	r Wet	Seas	son	Sur	/eys	For	Liste	ed La	rge E	Branchio	pods
Site or Project	Name: \mathcal{P}	DRE L	DATER	Co	unty:<	SAUT	REGO	Quad:	SEE	RERE	R	-5	TOV	wnship AL	o: Thrus	Hout "	Range	o: Piego Cov	Section:
SURVEYOR / P	ermit Num	ber:	PAUL	LEMONS	ndition	E0517	248-5					^	A.1				f		Madeal
Date: z/zn/n	Time. 040	0-1400	> 446	atrier Coi	iuitioi			74-1	5 m	ph	WIL	ر کلا	100	7 %	locc		eary	Kaine	Moreno for
Y	UTM	Temp	o (°C)	Depth ((cm)	Ar	face ea x m)		Crust	acear	ns			In	sects		ninths ms)	ndition	Notes / Voucher information
Feature ID#	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition	
PWP 1	482406.52 3637971.61	49	59	16	10	Zx30	2×30						54					Ditt	NoFS
PWP Z	482253.80 3638105.ZZ	49	58	8	8	2+8	Z×8											D.H	NOFS
FWP 3	481556.56 3638203.82	50	61	જ	8	1.540	1.5×10											D.TT	NOFS
PWP 4	481532.83 3638196.63	50	63	10	10	1×2	1×2											Dit	No FS
PWP 5	481519.59 3638192.16	52	63	8	8	126	1×6											D.T	NOF3
PWP 6	481505.26 3638187.97	53	63	10	0	146	146								1,4			九八	No F3
PWP 7	481478.58 363181 30 .53	53	63	8	8	246	2×6											カルナ	N.FS
BPWP8	485061.26 3634652.28	58	Glo	15	15	20×30	20420											NP	NOFS
PWP9	507278.06 3637951.13				6		3×3											及廿	Fooded
PWT 10	507243,717 3638107.35				8		3×8											Ditt.	
PWP 11	507077.48 3638515.05				8		5×8											Ditt	
PWP 1Z	507067.13 3638540.17				10		2×10											Ditt	
PWP 13	501051.25 3638574.6				10		8×8											Dit	
PWP 14	567634.43 3638645.18				12		4×1Z											DIT	V

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Appen	dix 1. U.S	3. Fish	and V	Vildlife S	Service	e – Da	ta She	et for	Wet	Seas	son	Surv	eys	For	Liste	d La	rge E	ranchio	pods
Site or Project	Name: PUR	e W	ATER	Co	unty:🤇	SAND	640	Quad:	SE	UER	6L-	SEE	Tow	rnship POR	: T		Range	2:	Section:
SURVEYOR / P	ermit Numl	ber: \mp	PUL L	EMOUS	- TE	0512	48-5										//		-
Date: 2/27/17	Time: 040	D	Wea	ather Cor	ndition	s: 49-	58 0	F,4-	-15 m	nph	wi	ککہ	, lt	0	%c	E	He	avy Ra	inl
cout/2	UTM:	Temp		Depth (Surf Ar (m :	ace ea		Crusta						sects				Notes / Voucher information
Feature ID # -	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition	
PWP 15 PWP 16 PWP 17 PWP 18 PWP 19	507024.91 3639664.95				10	D)	8×8							-				THE	Moveme for
PWP 16	506520.27 3640117.92				8		1×20											Dit	
PWP 17	506513,76 3640160.06				12		5×30											Ditt	
PWP 18	506823.36 3641066.23				8	N	5×18											Dit	
PWP 19	506647.90 3641059.89				6	8 8	3×16										-	7.1	
																		*	W
							4.												

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Apper	ndix 1. U.	S. Fish	n and V	Vildlife S	ervic	e – Da	ıta Sh	eet foi	· Wet	Seas	son	Sur	/eys	For	Liste	d La	rge E	Branchio	pods
Site or Project	Name: P	DRE L	DATER	Col	unty:<	Swit	REGO	Quad:	SEE	Rema	T.	-5	TOV	vnship Au	o: Theoc	Haut "	Range	DIEGO CON	Section:
SURVEYOR / F	Permit Num	ber:	PAUL	LEMONS	, TE	E0517	248-5					_							
Date: 3/6/17	Time: Ao	2-1530	vve	ather Cor	nditior	18: 52	-760	F, 1-1	lo m	ph.	WIL	ر کلا		<u>つ。</u>	locc				
5 7	UTM	Temp	o (°C)	Depth (cm)	Ar	face ea x m)		Crust	acear	าร			In	sects		ninths ms)	ndition	Notes / Voucher information
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition	
PWP 1	482406.52 3637971.61	54	66	10	10	4×30	\$×30						- X					DIT	No FS
PWP Z	482253.80 3638105.22	55	67	8	8	2×8	Z×8											D,TT	NOFS
FWP 3	481556,56 3638203.8Z	56	68	FR26	&	1×8	1.520	BR,10	3									D,H	BR. too metere
PWP 4	481532.83	58	69	5	10	1×2												カオ	
PWP 5	481519.59 3638192.16	60	68	8	8	126	1×6	BRLl										DIT	1 2 5K2 1,10 5
PWP 6	481505.26 3638187.97	60	70	10	10	.5x4	126											DIT	No F5
PWP 7	481478.58 363181 3 0.53	60	72	5	8	5×6	2×6											Ditt	NoF5
BPWP8	485061.26 3634652.28	63	676	8	15	20,20	20+20											NP, AB	No F3 - lots of tadap
PWP9	507278.06	70	75	3	6	3×3	8×8											DIT	N. FS
PWP 10	3637951.13 507243,77 3638107.35	71	73	4	8	4x4	3×8											DIT	No FS
PWP 11	3638107.35 5070777.48 3638515.05			Icm	8		5×8											D, TT	Dry Bem
PWP 12	507067.13 3638540.17		76	5	10	ZXIO	2×10											カナ	No FS
PWP 13	501051.25 3638574.63	73	77	4	10	IKE	8×8											Ditt	No E3
PWP 14	567634.43 3638645.18	73	76	H	12	2×10	4×12	BRLL										Dit	48 BELL, 103
Notos: Fill in abbroviat	ad names of Ann	.troops o	nd Notact	rooms for all	ath are in			ممطم مطاش	de an orde	A		NI-	A4	A L	منعمان مسط		Cant L.		

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahil).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed; with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys For Listed Large Branchiopods Site or Project Name: Pure Water County: Saw Dego Quad: Several See Report Range: Section:																			
Site or Project	Name: P	ie W	ATER.	Co	unty:	SAUD	640 (Quad:	SE	VER	6L-	SEE	Tov	roship): -\		Range) :	Section:
SURVEYOR / P	ermit Num	ber: 🗐	Puul L	EMOUS	- TE	0512	18-5												^
Date: 3/6/17	Time: Poo	>	We	ather Co	nditior	18:51	-760	F,1-	10 v	nph	wi	ككم	, (2	% c	€			
contil	UTM Temp (°C)		o (°C)	Depth (cm)		Surf Ar (m)			Crusta	acean	ıs			Ins	sects		inths ms)	ndition	Notes / Voucher information
Feature ID#	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms) Habitat Condition	Habitat Cor	
PWP 15 PWP 17 PWP 18 PWP 19	507024.91 3638664.95		77	5	10	5×60	8×8											D,TT	No FS
PWF 16	506520,27 3640117,92	75	75	4	8	5×15	1×20											D.T	No FS
PWP 17	506513.76 3640160.06	75	76	5	12	4/4/5	5×30											D,T	No F3
PWP 18	506823.36 3641066.23	Me	71	5	8	5×15	5×18											DIT	NoFS
PWP 19	506847.90 3641059.89	46	71	6	6	3×16	3xCe										,	D,TT	NoFS
																		×	
																			7
	*					C. L.						-							

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Apper	ndix 1. U.	S. Fish	n and V	Vildlife S	Servic	e – Da	ata Sh	eet fo	r Wet	Sea	son	Sur	/eys	Foi	Liste	d La	rge E	3ranchio	pods
Site or Project Name: PURE WATER County: SAN DIEGO Quad: SEE REPORT - SEVERAL THRUGHAT SAN DIEGO COUNTY SURVEYOR / Permit Number: PAUL LEMONS, TE 051248-5																			
Date: 3/13/17	Time: 682	ber:	We:	LEMONS	5 , ~1 E	=0517	248-6)											×
	UTM ?		p (°C)	Depth (Sur Ar	face rea x m)		Crust						sects		inths ns)	dition	Notes / Voucher information
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	I	
PWP 1	482406.52	63	67	10	10	4×20	\$x30					X	-			×		DIT	No FS. Tadpole
PWP Z	482253.80 363B105.ZZ	62	Dry		8		Z×8											D,TT	Dry
PWP 3	481556.56 3638203.8Z	61	66	3	8	5×2	1.5×10					X						0,11	No FS
PWP 4	481532.83 3638196.63	60	Dry	_	10		1×2											DIT	Dry
PWP 5	481519.59	59	60	3	8	.5×3	1×6	BRLL				X						D,TT	BRL1, 10.5
PWP 6	481505.26 3638187.97	59	60	3	0	5×3	126											D,TT	NoFS
PWP 7	481478.58 36318180.53	52	60	3	8	,5×3	2×6											D,TT	NoFS
3 PWP 8	485061.26 3654652.28	63	66	Q	15	B40	20+20											NP	No F3. Talpoles
PWP9	10000 00011		72	3	6	12	3×8											Ditt	No 53
PWT 10	507243,719 3638107.35	60	72	3	8	2×3	3×8	£1										Ditt	No FS
PWP 11	507077,48 3638515.05	OR	Dry		8	_	5×8											Ditt	Dry
PWP 1Z	507067.13 3638540.17	70	75	4	10	2×5	2×10											Ditt	Nofs
PWP 13	501051.25	2 ()	76	3	10	.524	8×8											Dil	NoFS
PWP 14	507034.43 3638645.18	71	76	3	12	2×5	4×12	BRL										DIT	BRL1, 103
Notes: Fill in abbreviate	ed names of Anna	stracans a	nd Notosti	racans for all	others in	ndicate nr	esence w	ith a chec	k mark	Anneti	racan a	and No	toetra	an Ah	hreviatio	ne. Hea	firet har	a letters of ac	anus and species name

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed, D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

Appendix 1. U.S. Fish and Wildlife Service - Data Sheet for Wet Season Surveys For Listed Large Branchiopods Site or Project Name: Pare Water County: San Dego Quad: Several See Report Range: Section:																			
Site or Project	Name: Pur	e W	ATER	Co	unty:	SAUD	6G0 (Quad:	SE	ver.	6L-	SEE	Tow	nship): -\		Range) ;	Section:
SURVEYOR / P	ermit Num	ber: 🖪	Pur L	EMOUS	- TE	0512	48-5												
Date: 3/15/17			We	ather Co	ndition	is:		F,	V	nph	w	nds	,		%00	E			_
contil	UTM:			Temp (°C) Depth (cr		Surf Ar (m)	ea		Crusta	acear	ıs			Ins	sects		ninths ms)	ndition	Notes / Voucher information
Feature ID # -	Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Platyhelminths (flatworms) Habitat Condition	
PWP 15 PWP 16 PWP 17 PWP 18 PWP 19	507024.91 3639664.95		77	3	10	3×4	8×8											Dit	NoF3
PWP 16	506520.27 3640117.92	16	77	3	8	.5×10	1×20											Dit	NOFS
PWP 17	506513.76 3640160.06	74	77	3	12	ZXIZ	5×30											Dit	NoFS
PWP 18	506823.36 3641066.23	6	74	3	8	5×8	5×18							-				Dit	NoF3
TWP 19	506847.90 3641059.89	75	75	3	6	3×10	3×16										X	かれて	NoF5
															5			*	E.
				7									-						
			1.																
																1			
15																			
		-																	

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP = Natural Pool, CP = Constructed Pool; UD = undisturbed; D = disturbed: with TT = tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

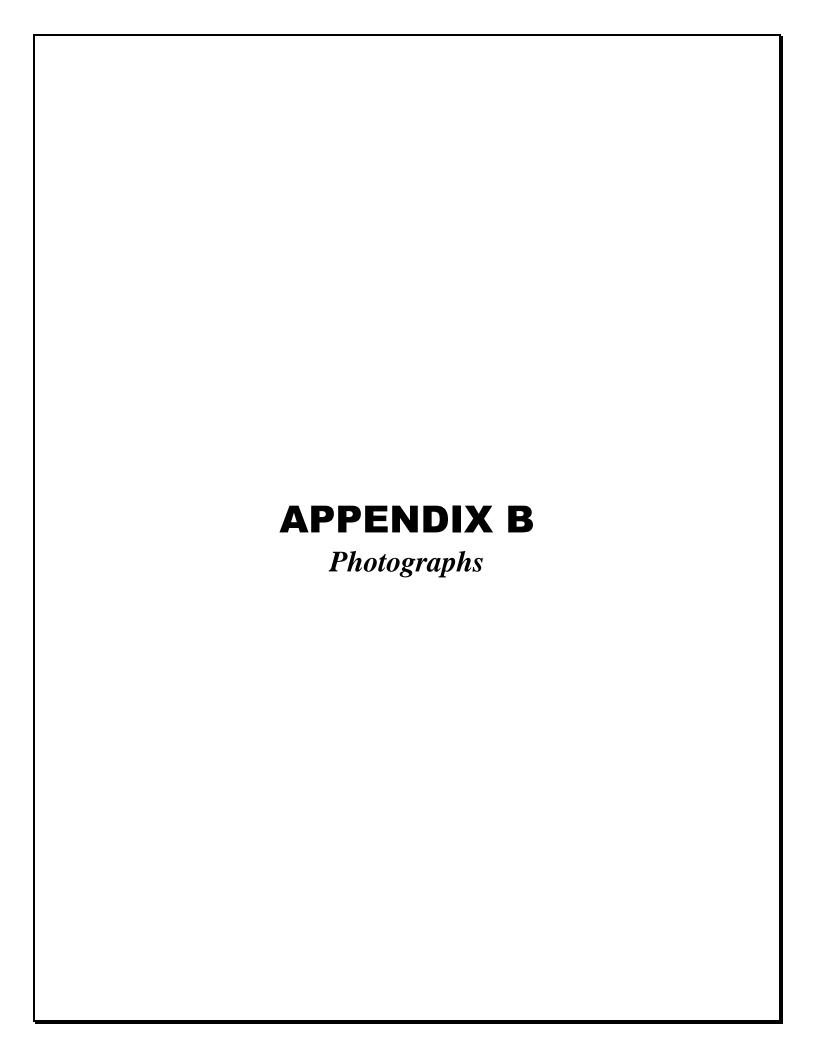
Appendix 1. U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys For Listed Large Branchiopods																			
Site or Project Name: PURE WATER County: SAN DIEGO Quad: SEE REPORT - SEVERAL THRUGHAT SAN DIEGO COUNTY SURVEYOR / Permit Number: PAUL LEMONS, TE 051248-5																			
Date: 5/12/17	Time: 083	iber: 80 - 143	Paul We	ather Coi	ndition	= 0513 18:63-	248-5 -77 °1	- - 2	5 m	Ph	WIL	Qs ,	loc	> 9	0 1.cc				11
7-1	UTM 🔻	Temp (%)		Depth (Sur Ar	face ea x m)		Crust						sects		inths ns)	dition	Notes / Voucher information
Feature ID #	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition	
PWP 1	482406.52 3637971.61		62	10	10	1×30	2×30											Dit	N. Es
PWP Z	482253.80 3638105.22	60	63	5	8	2×8	Z×8			1.								D,H	No 53
PWP 3	481556.56 3638203.82	60	/	Dry	8	Dry	1.5×10											カハ	Dry
PWP 4	481532.83 3638196.63	60	65	3	10	.5× 1	1×2											TIT	N. FS
PWP 5	481519.59 3638192.16	60	65	3	8	.5×3	1×6											2tt	No FS
PWP 6	481505.26	60	65	3	10	.5×1	126								a a			DIT	NoFS
PWP 7	36318130.53	1/1	/	Dry	8	Dry	2×6											TIT.	Dry
BPWP8	485061.26 3634652.28	61	63	6	15	2920	20420											NP	NoFS
PWP9		62	63	6	6	328	3×8											D,TT	NoFS
PWF 10	507243,719 3638107.35	Coh	/	Dry	8	Dry	3×8											DITT	Dry
PWP 11	507077.48 3638515.05	62	1	Dry	8	Day	5×8											D,TT	Diy
PWP 1Z	507067.13 3638540.17	62	(Dry	10	Dry	2×10											D.TT	Dry
PWP 13	3638574.6	62	/	Dry	10	Dry	8×8											D,T	Dry
PWP 14	507034.43 3638645.19	62	64	3	12	1×3	4×12											DIT	NoFS
lotos: Eill in abbroviato	d names of Ano	otropopo o	nd Noteet	rocene for all	othoro ir	odioata ar	ooonoo w	th a abou	ok mark	Anasti	rooon d	and No	tootro	oon Ab	brouistis	no. Haa	first have	lottoro of a	onus and anasias ass

by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG = light grazing, MG = moderate grazing, HG = heavy grazing.

Appendix 1. U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys For Listed Large Branchiopods Site or Project Name: Pure WATER County: SAN DEGO Quad: SEVERAL - SEE TOWNShip: Range: Section:																				
Site or Project	Name: Por	ze W	ATER	Co	unty:{	SAND	640	Quad:	SE	VER	6L-	SEE	Tow	vnship POR	: T -		Range	9:		Section:
SURVEYOR / P	ermit Num	ber: <	Paul 1	EMONS	- TE	0512	48-5													
Date: 5/12/17	Time:		We	ather Co	ndition	ıs:		F,	V	nph	w	مك	,		%00	E				
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Feature ID#	(Northing, Easting, Datum)	Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae	Platyhelminths (flatworms)	Habitat Condition		
PWP 15 PWP 16 PWP 17 PWP 18 PWP 19	507024.91 3639664.95	63	64	3	10	4×5	8×8											Dil	N.	FS
PWP 16	506520.27 3640117.92	63	65	3	8	5×8	1×20											J.TT	Nof	3
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by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.



APPENDIX B Photographs











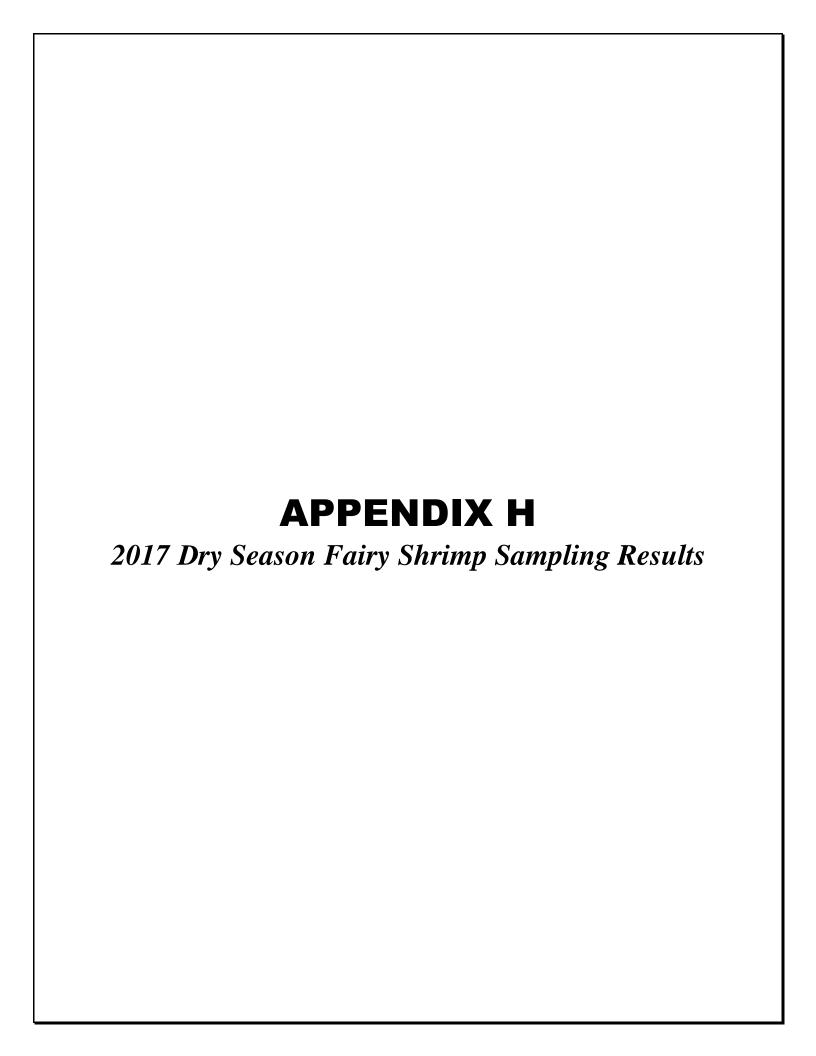






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MAIN OFFICE 605 THIRD STREET ENCINITAS, CALIFORNIA 92024 T 760.942.5147 T 800.450.1818 F 760.632.0164

August 17, 2017 9420-03

U.S. Fish and Wildlife Service Attn: Recovery Permit Coordinator 2177 Salk Avenue, Suite 250 Carlsbad, California 92008

Subject: 2017 Dry Season Survey for Vernal Pool Branchiopods,

City of San Diego Pure Water Project, San Diego County, California

Dear Recovery Permit Coordinator:

The 2017 dry season survey for the presence or absence of two federally listed endangered vernal pool branchiopod species, Riverside fairy shrimp (*Streptocephalus woottoni*) and San Diego fairy shrimp (*Branchinecta sandiegonensis*), was conducted on June 9, 2017. Dudek biologist Paul Lemons (TE-051248-5) conducted the soil collection according to the Survey Guidelines for the Listed Large Branchiopods (USFWS 2015). This report summarizes the results of the 2017 dry season survey in order to fulfill the report requirements in accordance with the Section 10(a)(1)(A) Recovery Permit for the Pure Water San Diego Program North City Project, located in San Diego County, California.

Soil samples from a total of 30 basins were collected during the 2017 dry season survey. Focused surveys were conducted during the 2016/17 wet season for 19 of the 30 basins. 11 basins were not previously surveyed.

The 2017 dry season soil collection was performed by Dudek biologist Paul Lemons (Permit # TE051248-5) with assistance from Dudek biologist Jeff Priest. Soil samples were collected on June 9, 2017. The samples were then submitted to, and later evaluated and cysts cultured by, biologist Greg Mason (Alden Environmental, Inc.). The survey focused on the determination of the presence/absence of two federally listed endangered vernal pool branchiopod species, Riverside fairy shrimp (*Streptocephalus woottoni*) and San Diego fairy shrimp (*Branchinecta sandiegonensis*), and was conducted according to the *Survey Guidelines for the Listed Large Branchiopods* (USFWS, 2015).

PROJECT LOCATION AND EXISTING CONDITIONS

Proposed North City Project pipelines extend through the cities of San Diego, Santee, and the community of Lakeside in unincorporated San Diego County, in addition to federal lands within MCAS Miramar (Figure 1, Regional Map). The Project site occupies portions of Township 14

Subject: 2017 Dry Season Survey for Vernal Pool Branchiopods, City of San Diego Pure Water Project, San Diego County, California

South, Range 1 East, projected Sections 30 and 31; Township 14 South, Range 1 West, projected Sections 25 and 36; Township 14 South, Range 2 West, projected Sections 32, and 33; Township 15 South, Range 1 East, projected Sections 6 and 18; Township 15 South, Range 1 West, projected Sections 1, 23, and 30; Township 15 South, Range 2 West, projected Sections 6, 25, 29, 30, 31, 32, 33, 35, and 36; Township 15 South, Range 3 West, projected Sections 9, 10, 11, 16, 17, 20, 25, 26, and 28; Township 16 South, Range 2 West, projected Sections 1, 2, 3, and 4; and Township 16 South, Range 3 West, projected Section 9 on the San Vicente Reservoir, El Cajon, La Mesa, Poway, La Jolla, and Del Mar U.S. Geological Survey 7.5 minute quadrangle maps (Figure 2, Vicinity Map).

Elevations range from about 94 feet amsl in the southwestern portion of the Project site to approximately 688 feet amsl.

Soils within the Project site consist of acid igneous rock land; Altamont clay; Carlsbad-Urban Land complex, Chesterton fine sandy loam; Chesterton-Urban Land complex; Cieneba rocky and very rocky coarse sandy loam, Cieneba-Fallbrook rocky sandy loam; Diablo clay; Diablo-Olivenhain complex; Diablo-Urban land complex; Fallbrook sandy loam; Fallbrook-Vista sandy loam; Friant rocky fine sandy loam; Gaviota fine sandy loam; gravel pits; Huerhuero loam; metamorphic rock land; Olivenhain cobbly loam; Ramona sandy loam; Redding cobbly and gravelly loam; Redding-Urban land complex; riverwash; Salinas clay loam; stony land; terrace escarpments; Tujunga sand; and Visalia sandy loam (SanGIS 2016).

VEGETATION COMMUNITIES, DEPRESSIONS, AND LAND COVER TYPES

A total of 28 vegetation communities and/or land cover types were identified within a 500-foot buffer of the Miramar Reservoir Alternative study area, and 26 vegetation communities and/or land cover types were observed within a 500-foot buffer of the San Vicente Pipeline Alternative study area. Dominate vegetation community/land cover categories within the study areas include disturbed and developed areas, scrub and chaparral, riparian and bottomlands, woodlands, and grasslands.

Suitable and potentially suitable habitat (i.e., ephemerally wet/ponded basins) for vernal pool branchiopods was identified on site and consists primarily of road rut (man-made) depressions, lacking vegetation, located immediately adjacent to roads and driveway access areas along the proposed project alignments; however, one basin (PWP 8) appears to be a naturally occurring pool adjacent to the Metro Biosolids Center (located north of State Route 52 (SR-52), adjacent to the Miramar Landfill). All of the basins surveyed are considered potentially suitable habitat for vernal pool branchiopods. All 19 basins surveyed were found in areas mapped as disturbed habitat.

Subject: 2017 Dry Season Survey for Vernal Pool Branchiopods, City of San Diego Pure Water

Project, San Diego County, California

Disturbed habitats are areas that have been physically disturbed and are no longer recognizable as native or naturalized vegetation associations (Oberbauer et al. 2008). These areas may continue to retail soil substrate. If vegetation is present, it is almost entirely composed of non-native vegetation, such as ornamentals or ruderal exotic species. Examples of these areas may include graded landscapes or areas, graded firebreaks, graded construction pads, construction staging areas, off-highway vehicle (OHV) trails, areas repeatedly cleared for fuel management, or repeatedly used areas that prevent revegetation (e.g., parking lots, trails that have persisted for years). On site, the dirt roads, dirt trails, and OHV areas are mapped as disturbed habitat.

PREVIOUS BRANCHIOPOD STUDIES

Dudek conducted presence/absence surveys for vernal pool branchiopods within 19 of the 30 basins discussed in this report during the 2016/17 wet season. The 19 basins surveyed during the 2016/17 wet season include PWP1 through PWP19. To Dudek's knowledge, no previous protocol-level surveys have been conducted within the additional 11 basins (VP5, VP8, VP10, VP11, VP12, VP15, VP17, VP18, VP19, VP26, and VP27) surveyed during the 2017 dry season and discussed in this report.

A general habitat assessment to evaluate the potential for vernal pool branchiopods within the survey area was conducted by Dudek biologist Brock Ortega in November 2016 prior to conducting protocol-level surveys.

SURVEY METHODS

Thirteen of the 30 basins were between 25 and 235 square meters, therefore 25 samples were collected from the lowest topographic areas of each of these basins. The remaining seventeen depressions were under 25 square meters, therefore 10 samples were collected from the lowest topographic areas of each of these basins. Small (6 inch) hand spades were used to excavate each sample (approximately 100ml each) of soil from the top 1-3 centimeters of soil. Data sheets were completed for each basin that was surveyed (Appendix A). Selected photographs of basins sampled are attached to this report as Appendix B.

Immediately after sample collection, each soil sample was carefully placed into plastic bags and labeled according to basin ID. Soil samples collected on June 9, 2017 from each basin were immediately submitted to Mr. Greg Mason of Alden Environmental, Inc. that same day. Soil samples were then processed by Mr. Mason for examination in the laboratory using the methods described in the dry season report by Alden Environmental, Inc. (Appendix C).

Subject: 2017 Dry Season Survey for Vernal Pool Branchiopods, City of San Diego Pure Water

Project, San Diego County, California

SURVEY RESULTS

Basin Descriptions

A total of 30 basins were surveyed during the 2017 dry survey season. The basins within the study area are distributed in topographically flat areas primarily along Eastgate Mall Road in the City of San Diego and Moreno Avenue in Lakeside, CA (Figures 3A-3G). Seventeen (17) of the basins are considered road ruts. Road ruts are depressions that are typically formed by vehicular traffic within or immediately adjacent to roadways, generally lack aquatic vegetation, and are heavily disturbed by vehicular traffic moderately to highly disturbed, showing evidence of current roadside disturbance (i.e., parked vehicles, trailers, tire tracks, trash). Thirteen basins (PWP 1, PWP 8, VP5, VP8, VP10, VP11, VP12, VP15, VP17, VP18, VP19, VP26, and VP27) are considered vernal pools. Vernal pools are depressions that retain sufficient water level, support vernal pool indicator plant species, and likely support vernal pool branchiopods.

Fairy Shrimp Presence/Absence

Results of the dry sample analysis yielded the presence of cysts from the fairy shrimp genus *Branchinecta* in 14 basins, including PWP 3, PWP 4, PWP 5, PWP 8, PWP 9, PWP 11, PWP 12, PWP 13, PWP 14, PWP 15, PWP 16, PWP 17, VP8, and VP11. All cysts collected from these basins were attempted to be cultured and raised to maturity to make a species-level identification. This attempt was successful in 12 of the 14 basins where cysts were collected. Only basins PWP 13 and PWP 16 failed to produce hatched shrimp, therefore, the cysts from these two basins could only be positively identified to genus level (i.e., *Branchinecta*). All shrimp that were successfully raised to maturity were identified as versatile fairy shrimp (*Branchinecta lindahli*). No listed San Diego fairy shrimp or Riverside fairy shrimp were identified during this dry season survey effort. Detailed results of soil analysis and cyst culturing are included in the Alden Environmental Report (Appendix C).

All required data collection information per the survey guidelines (USFWS, 2015) was recorded and is included as Appendices A through C of this report.

Subject: 2017 Dry Season Survey for Vernal Pool Branchiopods, City of San Diego Pure Water Project, San Diego County, California

I certify that the information presented in this survey report and attached exhibits fully and accurately represents my work. Please feel free to contact me at 760.942.5147 if you have any questions regarding the contents of this report.

Sincerely,

Paul Lemons TE051248

Att: Figures 1–3G

Appendix A, Survey Data Form Appendix B, Photo Exhibits

Appendix C, Dry Season Fairy Shrimp Sampling Results (Alden Environmental, Inc.)

cc: Brock Ortega, Dudek

Greg Mason, Alden Environmental, Inc.

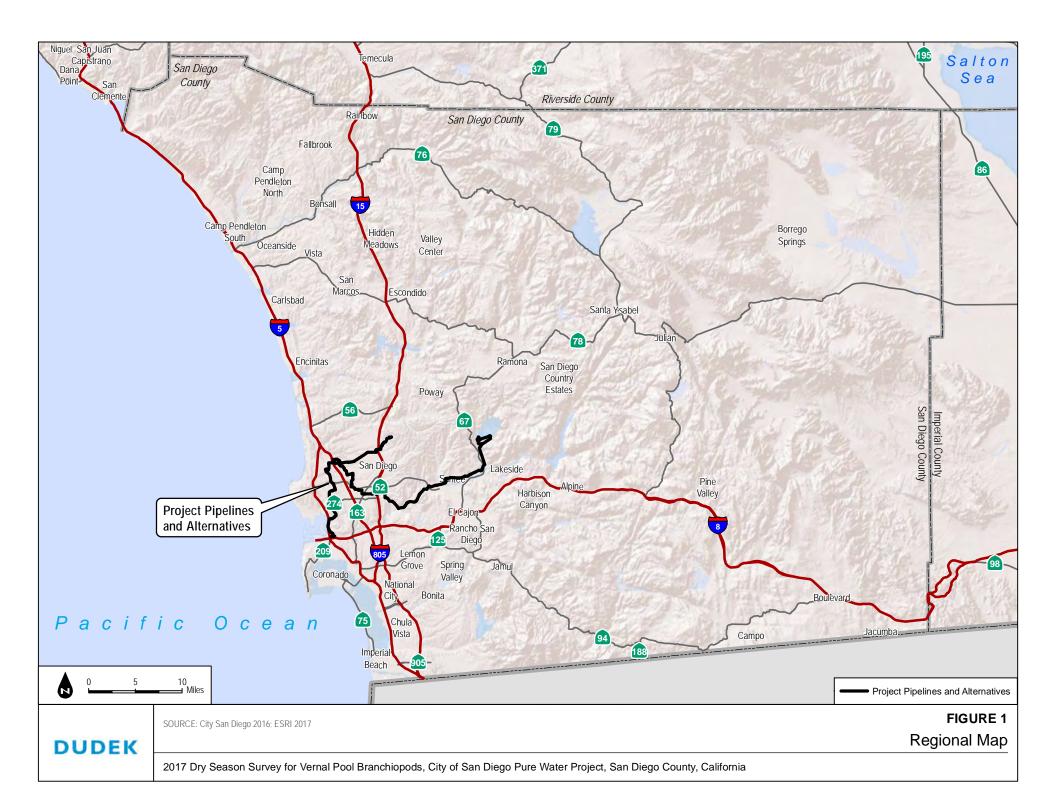
REFERENCES CITED

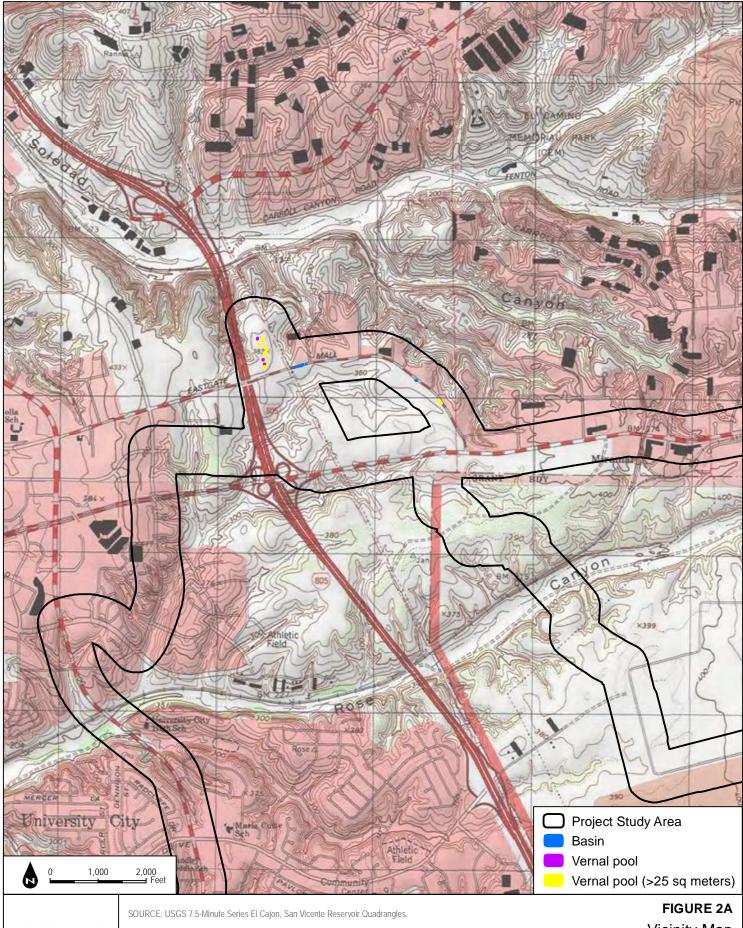
Bowman, R. H. 1973. *Soil Survey, San Diego Area, California, Part 1*. United States Department of Agriculture. 104 pp. + appendices.

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Nongame-Heritage Program. California Department of Fish and Game.

Oberbauer, Thomas, Meghan Kelley, and Jeremy Buegge. March 2008. *Draft Vegetation Communities of San Diego County*. Based on *Preliminary Descriptions of the Terrestrial Natural Communities of California*, Robert F. Holland, Ph.D., October 1986.

U.S. Fish and Wildlife Service (USFWS). 2015. Survey Guidelines for the Listed Large Branchiopods. Sacramento, California: U.S. Fish and Wildlife Service Sacramento Field Office. May 31.

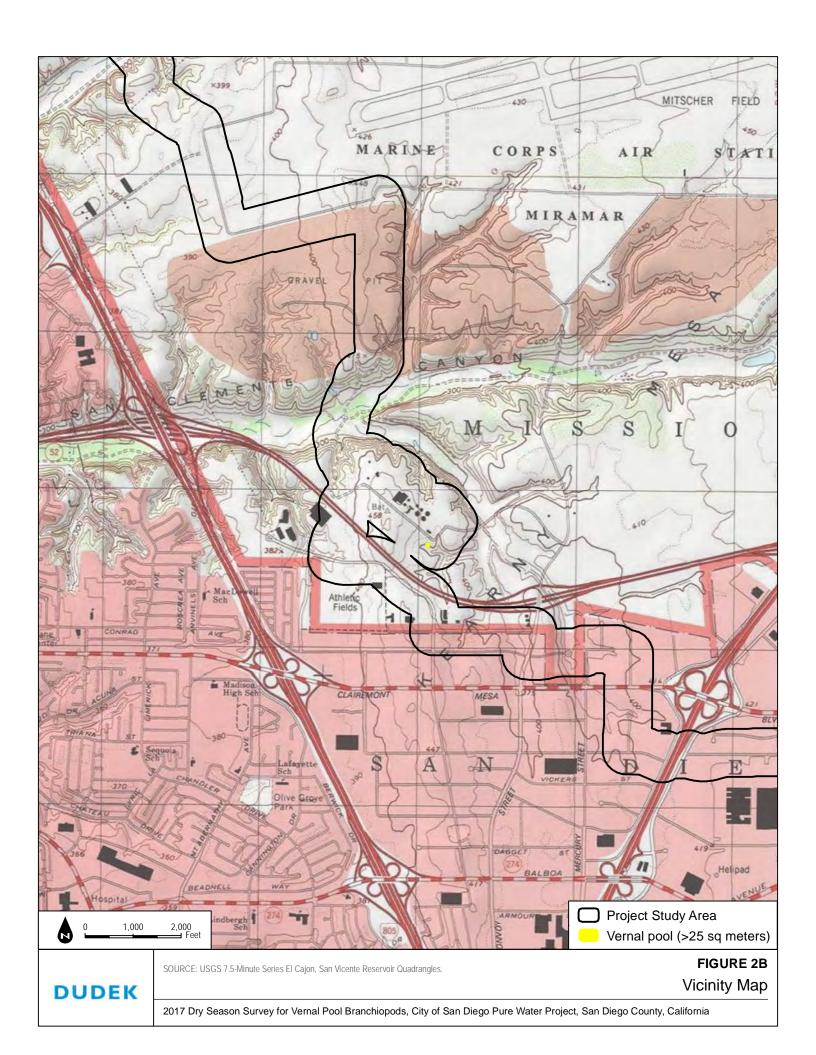


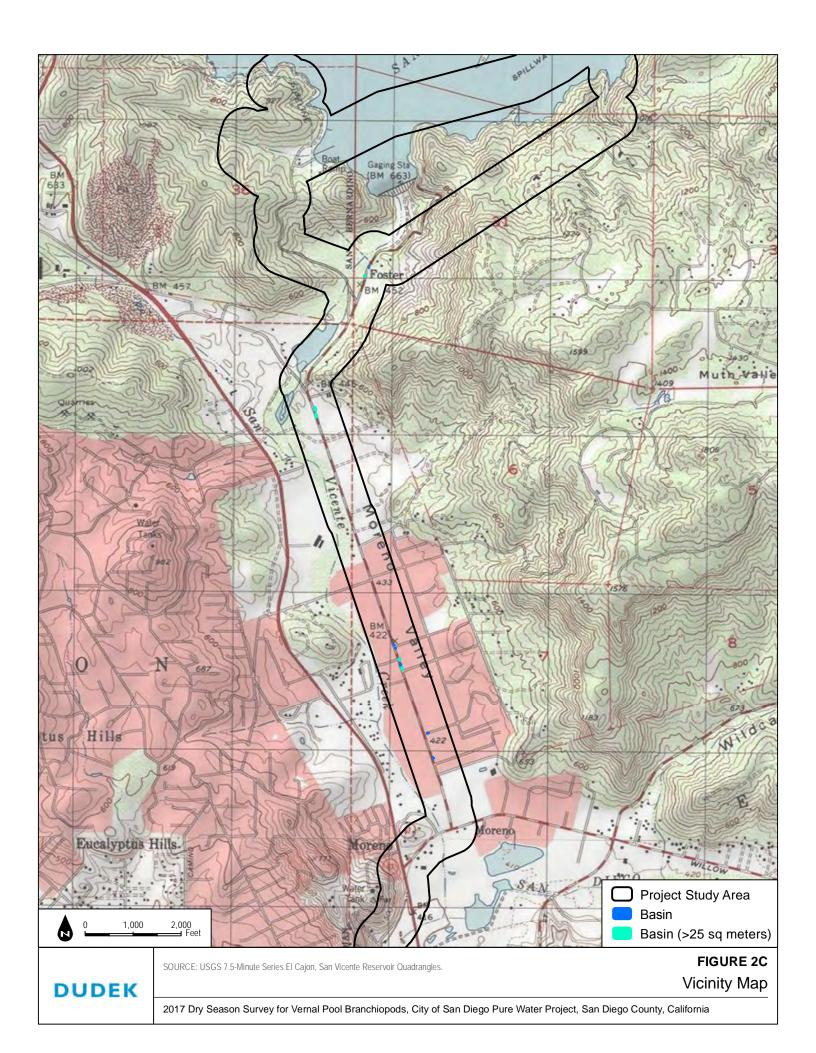


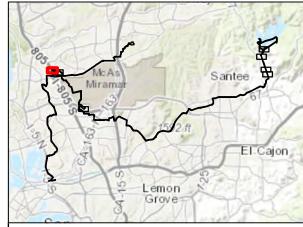
DUDEK

Vicinity Map

2017 Dry Season Survey for Vernal Pool Branchiopods, City of San Diego Pure Water Project, San Diego County, California







LEGEND

Project Study Area

San Vicente Pure Water Pipeline (San Vicente Pipeline)

North City Pure Water Pipeline and San Vicente Pure Water Pipelines

Vernal Pool Study Area

Vernal Pool Survey Areas

Helix Vernal Pool Study Area

Survey Results * indicates pools >25 square meters

Basin with Branchinecta lindahli not present

Basin with Branchinecta lindahli present

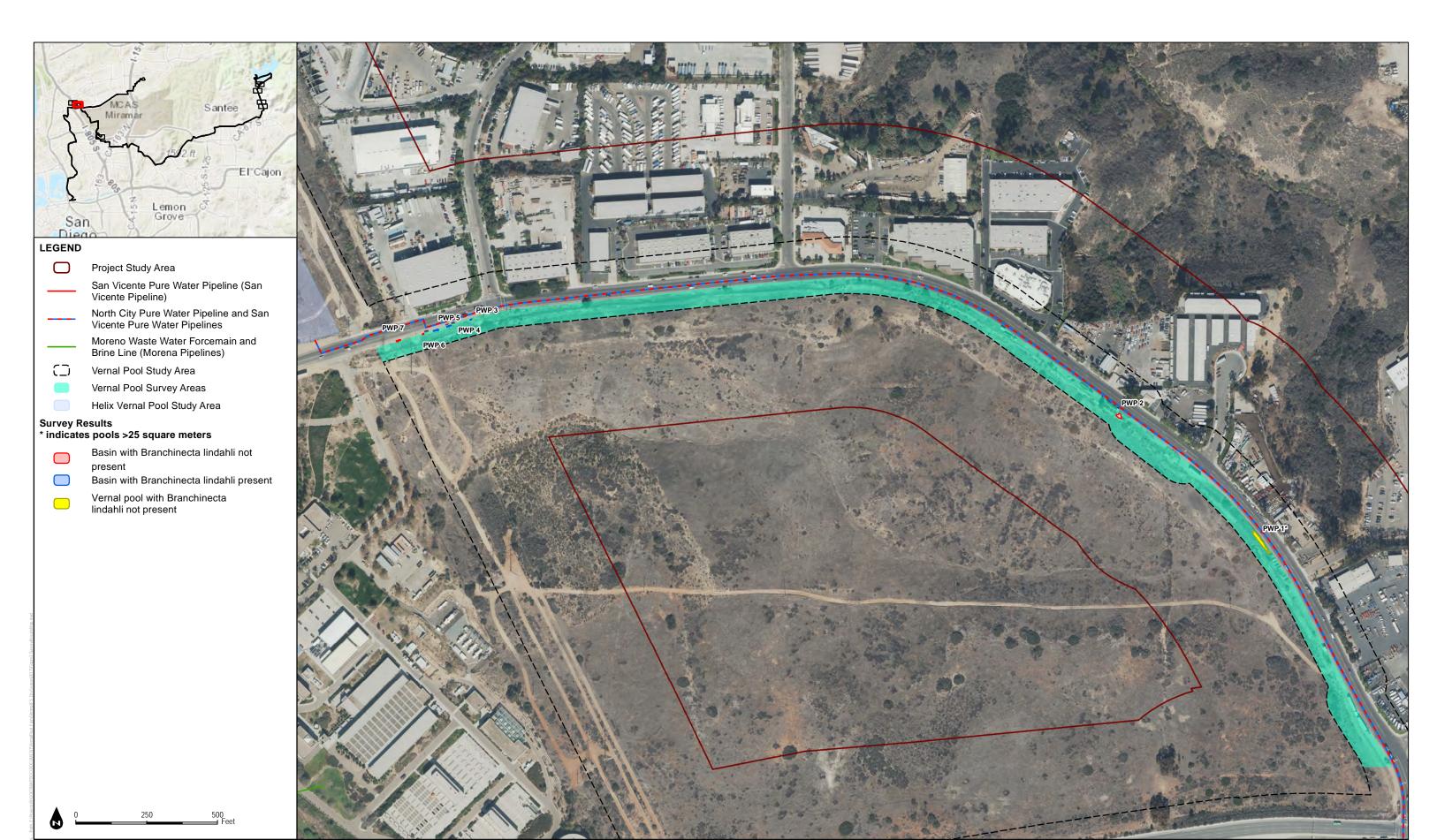
Vernal pool with Branchinecta lindahli not

Vernal pool with Branchinecta lindahli





SOURCE: SANDAG, 2016; SanGIS 2016



DUDEK

FIGURE 3B Survey Results Map



DUDEK

FIGURE 3C Survey Results Map



DUDEK

FIGURE 3D Survey Results Map



DUDEK

FIGURE 3E Survey Results Map



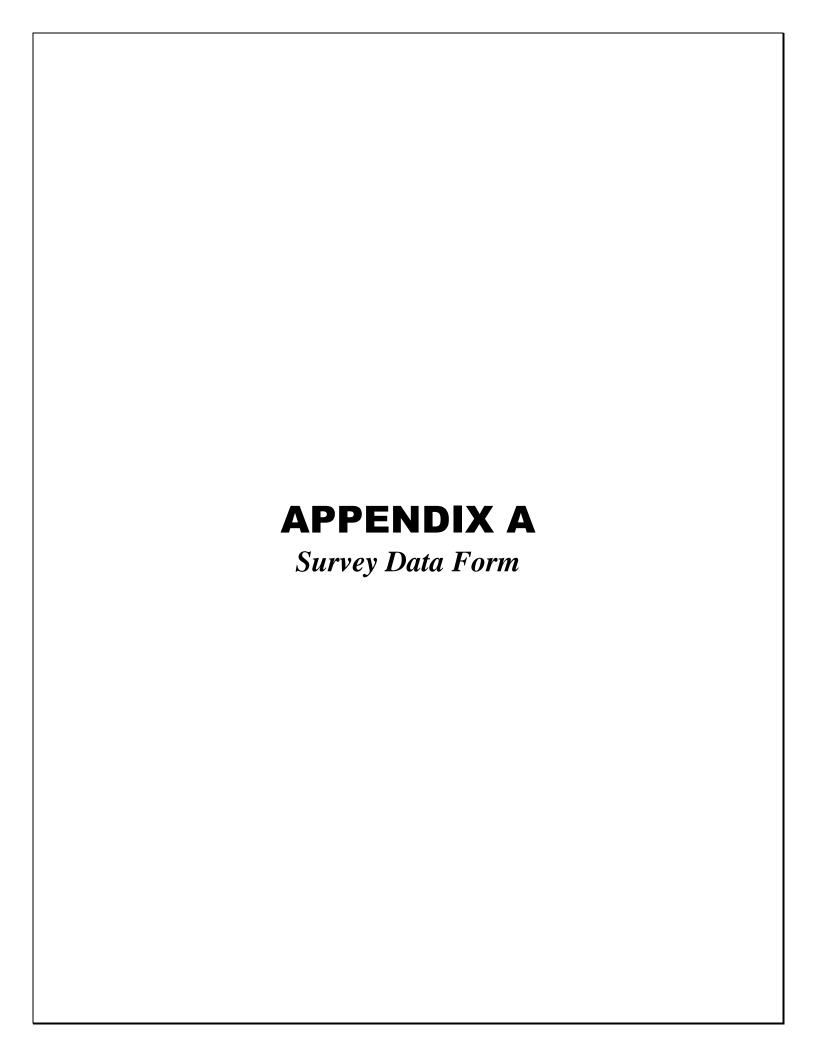
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FIGURE 3F Survey Results Map

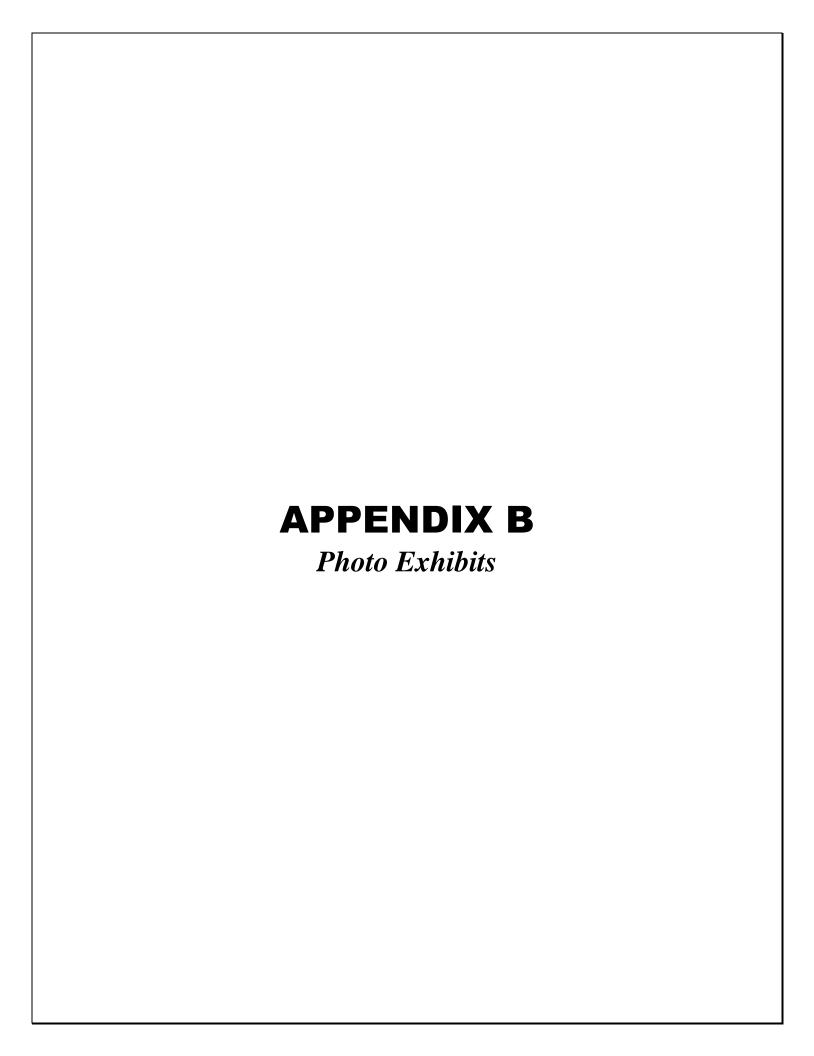


DUDEK

FIGURE 3G Survey Results Map



						nd Wildlife Se	ervice – Da	ata Sheet for	Dry Season	Sample Ar	nalysis for					
Project Name USFWS Proje County: Lat:	ect Number	e Wat	er Sa	Project Info	rmation	Quad: 5	ral-See	Regort	Soil Collection Soil Processin Soil Analysis/6 Soil Collection	Name of: Paul I	Person(2) Wh	a Conducted th	Information e Following 51248	Tacke and I	Permit Number(s):	
								Invertbrates P			-/					
	Insect	Micro-		Ostracods			Nu	umber of Large B		sts				1	Other Species	
Pool/ Habitat/ Basin No.		Turbellaria	Cladocera		Copepods	Branchinecta sp.	Lepidurus packardi	Streptocephalus wootoni		Lynceus brachyurus	Cyzicus californicus	Hydracarina Live	Nematoda	Collembola		Comments
7WP (2 3																
3						X-45										BRLL
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145						X-358 X-10 X-13 X-115 X-108 X-11 X-30										BRLI Br. SPP BRLI Br. SPP BRLI Br. SPP BRLI
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18																
26									1							
	1		1					1								



APPENDIX B Photo Exhibits



Overview photo of vernal pools VP5, VP8, VP10, VP11, VP12, VP15, VP17, VP18, VP19, VP26, and VP27



Photo of vernal pool PWP 1

APPENDIX B (Continued)



Photo of road rut PWP 1



Overview photo of road ruts PWP 3 through PWP 7

APPENDIX B (Continued)

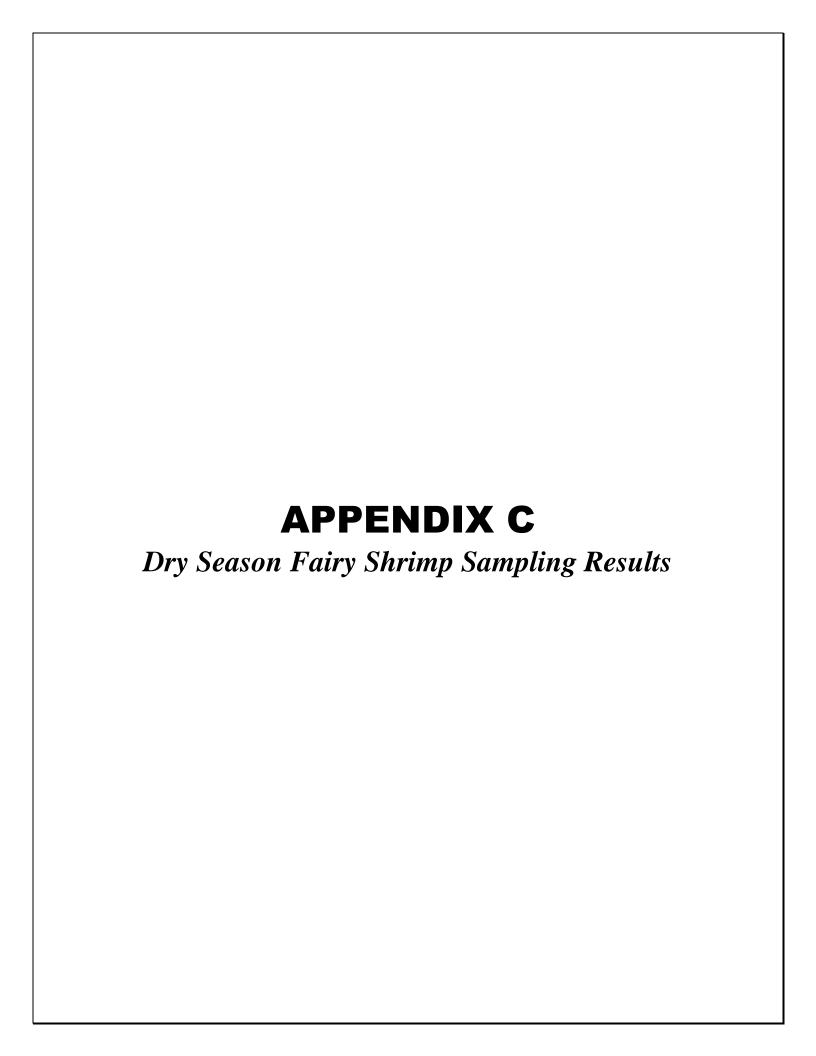


Photo of vernal pool PWP 8

APPENDIX B (Continued)



Overview photos of road ruts PWP 9 through PWP 19





July 23, 2017

Mr. Brock Ortega Dudek 605 Third Street Encinitas, CA 92024

Subject: Dry Season Fairy Shrimp Sampling Results

Dear Mr. Ortega:

This letter presents the results of dry season sampling conducted on soil samples collected from basins on the Pure Water site.

Methods

Dry Sampling

On Friday, June 9, 2017 Alden received soil samples collected from 30 basins on the Pure Water site. The soil was provided in bags labeled with the basin number. The collected soil from each basin was divided into 100ml subsamples, based on the area of the pool and the amount of soil collected. Each sample was then hydrated and processed through a series of sieves to separate out fairy shrimp cysts that may be present. The sieves used were of 710-, 355-, and 212-µm pore size screens. The final sieve pore size is smaller than the target fairy shrimp genera (*Branchinecta* and *Streptocephalus*) average cyst diameter and therefore would retain cysts. The material remaining on the final sieve was next placed in a brine solution to help separate organic from inorganic material. The organic portion was then filtered through a standard coffee filter and allowed to dry. The dried material on the filters was then examined under a stereo dissecting scope to determine if cysts were present. Cyst surface characteristics were then used to identify cysts to genus, if present.

Hatching

Fairy shrimp cysts of the species *Branchinecta* collected during the dry sampling effort were hydrated by placing them into plastic containers, filled with approximately 525 ml of filtered, non-chlorinated drinking water. The coffee filters with the collected cysts were slowly opened over the container and gently shaken to allow the material to fall into the water. The sides of the filter were then rubbed against one another to release any additional material. Finally, a squirt bottle filled with filtered drinking water was used to spray any additional material from the filter into the container.



The containers were given a sample id numbers and placed on a table in a climate controlled room. Lighting in the room was provided by indirect sunlight as well as an overhead light that was kept on approximately 12 hours a day to help emulate spring season lighting conditions. An overhead fan also was kept on at a low level to provide for some air movement across the water surface in the sample containers.

The samples were checked daily to see if any fairy shrimp had emerged. Once nauplii were observed, feeding began. The hatched shrimp were fed a single drop of prepared food on a daily basis until they were collected. The food used was a mix of active brewer's yeast, sugar, powdered fish food, and water.

The hatched shrimp were allowed to continue under these conditions until they had reached maturity, as determined by reaching full size, antennal development (males) and brood pouch (females). Once mature, the fairy shrimp were collected for identification by pouring the material in each container through a small strainer. Collected shrimp were then placed into a dish of carbonated (soda) water to slowly asphyxiate the shrimp. Once dead, the collected shrimp were placed in a 27 x 57 mm (5 dram) clear glass vial, filled with 70% ethyl alcohol. The collected shrimp were then identified to the species level with the aid of a stereo dissecting scope.

Results

Dry Sampling

Of the 30 basins, 14 were found to contain cysts of the genus *Branchinecta* (Table 1). The cyst densities in these 14 basins ranged from 2 to 4,122 cysts per basin. No *Streptocephalus* cysts were recovered from any of the basins.

Hatching

Two rounds of hydration and rearing were conducted for the samples that were found to have cysts present. Following the first round, Lindahl's fairy shrimp were collected and identified in 8 basins (Table 2). Following the second round, Lindahl's fairy shrimp were collected from an additional 5 basins. Only 2 basins (PWP 13 and PWP 16) failed to produce hatched shrimp. No listed San Diego fairy shrimp were identified in either rearing round.



	Table 1						
Dr	Dry Season Fairy Shrimp Sampling Results						
	Volume	Number of	Fairy Shrimp Cysts Recovered				
Basin	Collected (ml)	Subsamples Processed	Branchinecta	Streptocephalus			
PWP1	2,500	25	0	0			
PWP2	1,000	10	0	0			
PWP3	1,000	10	45	0			
PWP4	1,000	10	7	0			
PWP5	1,000	10	5	0			
PWP6	1,000	10	0	0			
PWP7	1,000	10	0	0			
PWP8	2,500	25	4,122	0			
PWP9	1,000	10	2	0			
PWP10	1,000	10	0	0			
PWP11	2,500	25	358	0			
PWP12	1,000	10	10	0			
PWP13	2,500	25	73	0			
PWP14	1,000	10	1,175	0			
PWP15	1,000	10	108	0			
PWP16	2,500	25	11	0			
PWP17	2,500	25	30	0			
PWP18	2,500	25	0	0			
PWP19	1,000	10	0	0			
Total	29,500	295	5,946	0			
VP5	2,500	25	0	0			
VP8	2,500	25	40	0			
VP10	1,000	10	0	0			
VP11	2,500	25	615	0			
VP12	2,500	25	0	0			
VP15	1,000	10	0	0			
VP17	2,500	25	0	0			
VP18	1,000	10	0	0			
VP19	2,500	25	0	0			
VP26	1,000	10	0	0			
VP27	1,000	10	0	0			
Total	20,000	200	655	0			
Combined Total	49,500	495	6,601	0			



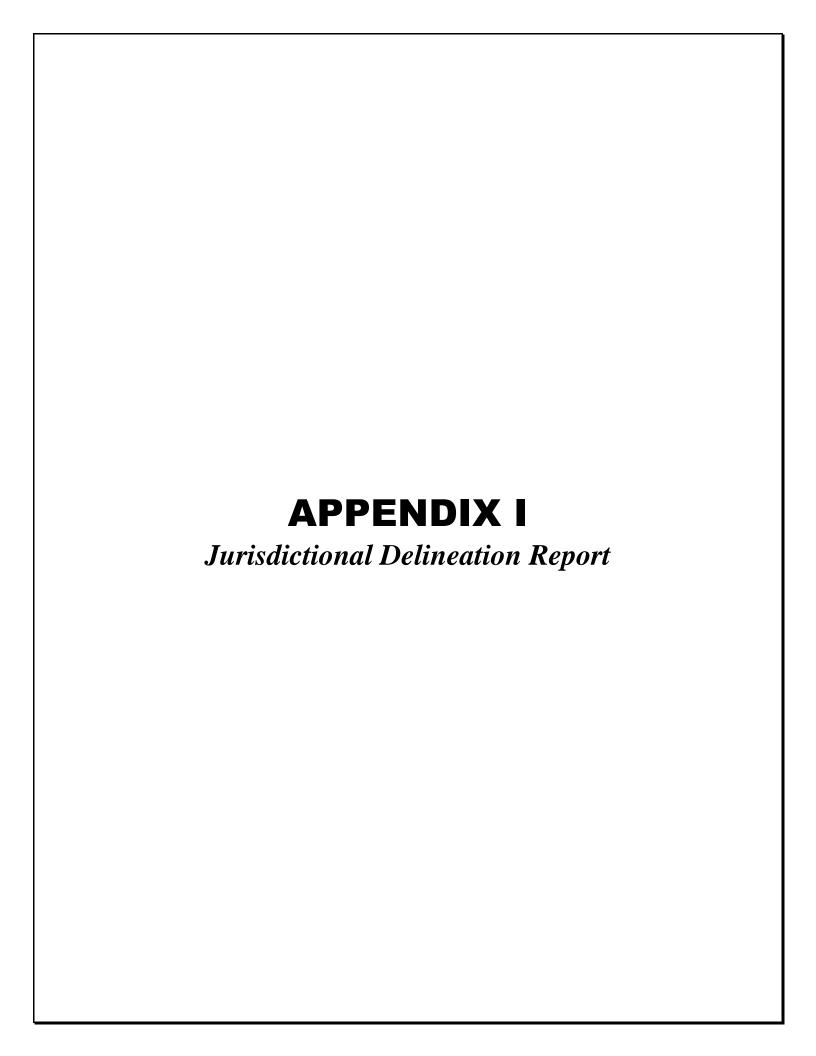
	Table 2						
Fairy Shrir	Fairy Shrimp Hatching Results						
Basin	Branchine	cta lindahli					
Dasiii	Male	Female					
PWP3	3	0					
PWP4	0	1					
PWP5	3	1					
PWP8	5	1					
PWP9	6	0					
PWP11	15	25					
PWP12	3	2					
PWP13	0	0					
PWP14	20	14					
PWP15	4	8					
PWP16	0	0					
PWP17	5	3					
VP8	3	2					
VP11	4	2					

The above text presents the final results of the dry season fairy shrimp and hatching effort conducted for the project. If you have any questions or need additional information please call.

Sincerely,

Greg Mason

Principal/Senior Biologist





MAIN OFFICE 605 THIRD STREET ENCINITAS, CALIFORNIA 92024 T 760.942.5147 T 800.450.1818 F 760.632.0164

July 21, 2017 9420

Ms. Keli Balo City of San Diego 9192 Topaz Way San Diego, California 92123

Subject: Jurisdictional Delineation Report for the North City Project, San Diego County, California

Dear Ms. Balo:

This report documents the results of a jurisdictional delineation for the proposed Pure Water San Diego Program North City project (North City Project). The 730.6-acre North City Project Study Area (Study Area) consists of the North City Project impacts and an approximately 50-foot buffer along the linear portions of the North City Project. The North City Project Alternatives include a variety of facilities located throughout the central coastal areas of San Diego County in the North City geographic area (Figure 1, Regional Map). The two alternatives, the Miramar Reservoir Alternative and San Vicente Reservoir Alternative, include overlapping areas. A new pure water facility and three pump stations would be located within the corporate boundaries of the City of San Diego (City). Pipelines would traverse a number of local jurisdictions, including the cities of San Diego and Santee and the community of Lakeside in unincorporated San Diego County, in addition to federal lands within Marine Corps Air Station (MCAS) Miramar (Figure 2, Vicinity Map).

This jurisdictional delineation report includes a description of jurisdictional delineation methods and the results of the jurisdictional delineation.

METHODS

Literature Review

Dudek reviewed aerial maps from the San Diego Association of Governments (SANDAG 2014) and Bing (Microsoft 2016); the U.S. Fish and Wildlife Service National Wetlands Inventory (USFWS 2016); the U.S. Geological Survey National Hydrography Dataset (NHD; USGS 2016); the Web Soil Survey (USDA 2016a); Overview of San Diego Region Watershed Management Areas (SDRWQCB 2002); vegetation mapping by Dudek in 2016; vernal pool and basin mapping (HELIX 2016a, 2016b); Draft Existing Conditions Letter Report for the Pure Water San

Diego Program North City Water Purifications Project (HELIX 2016c); topographic data (SANGIS 1999; SDSU n.d.); and historical aerials and topographic maps (Google Earth 2016; Historic Aerials Online 2016a, 2016b, 2016c, 2016d).

Jurisdictional Delineation

A formal jurisdictional delineation was completed by Dudek biologists in September and October 2016 (Table 1) to delineate the extent of jurisdictional aquatic features within the Study Area. In November 2016, the potential vernal pool areas were refined during the site visit. The riparian vegetation communities mapped by Dudek in 2016, vernal pool mapping (HELIX 2016a, 2016b), National Wetlands Inventory data (USFWS 2016), NHD data (USGS 2016), and focused drone flights were used to identify areas within the Study Area on which to concentrate the jurisdictional delineation.

Table 1 Survey Schedule

Date	Time	Surveyors ¹	Weather Conditions ²
9/26/2016	0930–1700	DM, CA	80°F- 93°F, 0% cc, 1 mph wind
9/27/2016	0930–1700	DM, CA, JW, KD	84°F-96°F, 0% cc, 0-2 mph wind
9/28/2016	0930–1700	DM, CA, JW, KD	80°F-93°F, 0% cc, 0-2 mph wind
10/5/2016	0930–1700	CA, PS	68°F-78°F, 0% cc, 0-2 mph wind
10/26/2016	0730–1050	KD	62°F-71°F, 0% cc, 0-3 mph wind
11/29/2016	1200-1600	ВО	56°F-69°F, 70% cc, 0-2 mph wind

Notes:

The delineation defined areas under the jurisdiction of the California Department of Fish and Wildlife (CDFW) pursuant to Sections 1600–1603 of the California Fish and Game Code, under the jurisdiction of the U.S. Army Corps of Engineers (ACOE) pursuant to Section 404 of the federal Clean Water Act, under the jurisdiction of the Regional Water Quality Control Board (RWQCB) pursuant to Clean Water Act Section 401 and the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and wetlands under the jurisdiction of the City of San Diego pursuant to Section 114 of the San Diego Municipal Code.

Specifically, the methodology used for each jurisdiction or regulating agency, including ACOE, CDFW, RWQCB, and the City, is described in the following paragraphs.

The ACOE wetlands delineation was performed in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual (Wetlands Manual; ACOE 1987), the Regional Supplement to the

¹ DM = Danielle Mullen; CA = Callie Amoaku; JW = Janice Wondolleck; KD = Katie Dayton; PS = Patricia Schuyler; BO = Brock Ortega.

[°]F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour

Corps of Engineers Wetland Delineation Manual: Arid West Region (Regional Supplement; ACOE 2008), Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (Updated OHWM Datasheet; ACOE 2010), and guidance provided by ACOE and the U.S. Environmental Protection Agency on the geographic extent of jurisdiction based on the U.S. Supreme Court's interpretation of the Clean Water Act (ACOE and EPA 2008). ACOE and RWQCB, pursuant to the federal Clean Water Act, include all areas supporting all three wetlands criteria described in the ACOE Wetlands Manual: hydric soils, hydrology, and hydrophytic vegetation. RWQCB may also take jurisdiction over surface waters lacking ACOE regulation pursuant to the state Porter-Cologne Act. These areas generally include areas that have at least one of the three wetlands indicators but that are isolated from a tributary of navigable water, as determined through lack of evidence of surface water hydrology. Jurisdiction of RWQCB is coincident with that of ACOE in accordance with the federal Clean Water Act, except in cases where a resource is determined to be isolated from navigable waters of the United States and where RWQCB may take jurisdiction under the Porter-Cologne Act. A predominance of hydrophytic vegetation, where associated with a stream channel, was used to determine CDFW-regulated riparian areas. Streambeds under the jurisdiction of CDFW were delineated using the Cowardin method of waters classification, which defines waters boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) (Cowardin et al. 1979).

Section 114 of the San Diego Municipal Code describes specific development regulations pertaining to sensitive biological resources, including wetlands. The City's definition of wetlands is broader than the definition applied by ACOE.

Collectively, areas under the jurisdiction of ACOE, RWQCB, and/or CDFW are termed "jurisdictional aquatic resources." All jurisdictional aquatic resources are considered wetlands under the City's jurisdiction.

To assist in the determination of jurisdictional areas on site, data was collected at 40 locations (i.e., data stations) using wetland determination data forms (Appendix A). Hydrology, vegetation, and soils were assessed and data were collected and captured on approved ACOE forms. The locations of data stations were collected using a Trimble GeoXT handheld Global Positioning System (GPS) unit with sub-meter accuracy. Based on the GPS data collected in the field, potentially jurisdictional areas were digitized in a geographic information system (GIS) using ArcGIS software.

Hydrophytic Vegetation

Changes in human land-use practices and seasonal changes in species composition, wildfires, and other natural disturbances can adversely affect the hydrophytic vegetation determination. During the delineation, a data station point was considered positive for hydrophytic vegetation if it passed the basic dominance test (Indicator 1), meaning that more than 50% of the dominant species sampled were characterized as either obligate wetland, facultative wetland, and/or facultative per the Arid West 2016 Regional Wetland Plant List (Lichvar et al. 2016). In those cases where the dominance test failed, the vegetation parameter was reevaluated using the prevalence index (Indicator 2), which takes into account all plant species in the community, not just dominants. All plant species observed during the surveys were identified and recorded. Where plant identification could not be made in the field, a sample was taken and later identified in the laboratory.

Hydric Soils

According to the National Technical Committee for Hydric Soils, hydric soils are "soils that are formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (USDA 1994). Soil pits were prepared using a "sharp shooter" shovel to determine whether hydric soils were present. The presence of hydric soils was determined through consultations with the 1987 ACOE Wetlands Manual; Field Indicators of Hydric Soils in the United States, version 7.0 (USDA 2010); ACOE's Regional Supplement (ACOE 2008); and Munsell soil color charts (Munsell 2016). Where feasible, soil pits were prepared to depths ranging from 10 to 16 inches, and dry soils were moistened to obtain the most accurate color. Excavated soils were examined for evidence of hydric conditions, including low chroma values and mottling, vertical streaking, sulfidic odor, and high organic matter content in the upper horizon. Evidence of previous ponding or flooding was assessed along with the slope, slope shape, existing landform characteristics, soil material/composition, and hydrophytic vegetation to determine whether hydric soils were present.

Hydrology

Per the guidelines prescribed in the Regional Supplement (ACOE 2008), wetland hydrology indicators are separated into four major groups: groups A, B, C, and D. Group A indicators are based on direct observations of surface flow, ponding, and soil saturation/groundwater. Group B indicators consist of evidence that the Study Area has been or is currently subjected to ponding, including, but not limited to, water marks, drift deposits, and sediment deposits. Group C indicators include signs of previous and/or current saturation, including oxidized rhizospheres surrounding living roots and the presence of reduced iron or sulfur, both of which are indicative

of extended periods of soil saturation. Group D indicators consist of "vegetation and soil features that are indicative of current rather than historic wet conditions and include a shallow aquitard and results of the Facultative (FAC)-Neutral test" (ACOE 2008). Each group is subdivided into primary and secondary categories based on their frequency and reliability to occur in the Arid West region. Signs of hydrology were investigated on the Study Area. For unvegetated areas, the Updated OHWM Datasheet (ACOE 2010) was used to assess hydrology.

Desktop Analysis

Desktop analysis was used to make preliminary determinations for areas where no access was permitted. Potential jurisdictional areas were mapped using riparian vegetation communities, nearby features accessed during the survey, location of the potential features, and other data (USGS 2016; USFWS 2016; Historic Aerials 2016d). One area is mapped as unvegetated channel, but based on the review of the NHD and topographic maps, there is no connectivity to waters of the United States; therefore, it was mapped under the jurisdiction of CDFW only. Another area within an access-restricted area is mapped as a vernal pool (PW53) in the vernal pool survey data (HELIX 2016a, 2016b); it is described in the HELIX report as being inundated for less than 7 days and not further described with regard to vernal pool indicator species (HELIX 2016c). Therefore, to be conservative, this feature was mapped as a potential vernal pool. Figure 3, Methods – No Access, shows the "no access" areas.

In addition, four vernal pools (PW55, PW56, PW57, and PW58), totaling 0.04 acre, were mapped by HELIX on the North City Pure Water Facility (NCPWF) and described in their report as having vernal pool indicator plant species present (HELIX 2016c) and therefore considered jurisdictional aquatic resources. Additional pools were mapped at NCPWF during the extraordinary rain events in 2017 totaling an additional 0.34 acre of vernal pool area. These pools were found to support indicator plant species, so are therefore considered to be vernal pools in accordance with the Draft Vernal Pool Habitat Conservation Plan (City of San Diego 2016b). Six of these 2017 pools expanded the surface area of the HELIX pools to 0.24 acre and created eleven new pools (0.14 acre). The total vernal pool acreage within the Miramar Reservoir Alternative study area is 0.38 acre including the expanded pools. HELIX and Rocks evaluated this site for potential jurisdictional drainages and none were identified. The vernal pools mapped on the NCPWF site are considered isolated from navigable waters with no federal nexus that would allow these pools to be considered jurisdictional wetlands by the ACOE under the federal Clean Water Act (HELIX 2016c). The RWQCB may try to assert jurisdiction over the vernal pools as wetland waters of the State under the Porter-Cologne Act; however, these pools are small, isolated, and contain limited biological value given that they do not support listed species (HELIX 2016c). The vernal pools would be considered City wetlands in accordance with the City's Biological Guidelines (HELIX 2016c).

The San Vicente Reservoir Dam Raise was completed in 2014 to raise the inundation area from the existing OHWM of 650 feet above mean sea level (amsl) to a new spillway elevation of approximately 766 feet amsl (excluding an Emergency Storage Project area, which was raised to approximately 710 feet amsl) (ACOE 2009). The new spillway elevation was used in combination with information provided by the City of San Diego (Adleberg, pers. comm. 2016a) to determine the OHWM of the San Vicente Reservoir.

Survey Limitations

The survey was conducted during the fall, thereby limiting detection of some annual plant species. However, based on characteristics observed at each of the investigation locations, this limitation is not expected to have affected the jurisdictional determination. Additionally, although the ongoing drought in the region may affect the current conditions observed in the field; other resources were reviewed to supplement the field survey in making the final determinations.

Where possible, plants were mapped to genus. The only areas where a spring survey may provide additional information are the vernal pools that were mapped by HELIX (2016a, 2016b) but were not addressed further in their draft report (HELIX 2016c); where access allowed, these areas were visited by Dudek in October, but survey timing did not coincide with the blooming period of most annual species and therefore not all plants could be identified.

Areas that were inaccessible due to restrictions were delineated via desktop analysis, but were not visited in person during the surveys.

The vernal pool survey area covered a portion of the Study Area, and it is possible there are other vernal pools within upland areas that were not surveyed as part of the jurisdictional delineation. Those potential vernal pool areas have been identified and are further analyzed as part of the 2016/2017 vernal pool surveys.

Biological Resource Mapping

Vegetation communities were mapped by Dudek prior to the jurisdictional delineation in early 2016; however, some vegetation communities and boundaries were refined as needed during the jurisdictional delineation, which mapped boundaries using a Trimble GeoXT GPS with submeter accuracy. These boundaries and locations were digitized by Dudek GIS technician Andrew Greis using ArcGIS software. Additional GIS data was received from HELIX in October and replaced previous vegetation mapping for the North City Pure Water Facility area (HELIX 2016d).

As adopted in the City Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012), the vegetation community and land cover mapping follows the Preliminary

Descriptions of the Terrestrial Natural Communities of California (Holland 1986) as modified by the County and noted in Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008), with modifications to accommodate the lack of conformity of the observed communities to those of Holland. Plant species identified during the delineation are described by their scientific names according to the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2016) and common names follow the U.S. Department of Agriculture Natural Resources Conservation Service PLANTS Database (USDA 2016b).

PHYSICAL CHARACTERISTICS

Site Description

The North City Project Alternatives are located in San Diego, Santee, Lakeside, and MCAS Miramar (Figure 1). The Study Area is located on the U.S. Geological Survey 7.5-minute Del Mar, Poway, San Vicente Reservoir, La Jolla, La Mesa, and El Cajon quadrangles (Figure 2).

The Study Area ranges from approximately 10 feet amsl to 1,080 feet amsl. Much of the site is gently sloping or relatively flat, with steeper areas around the reservoirs.

Soils

Soil types within the Study Area are shown in Table 2 and on Figure 4, Soils Map (USDA 2016a). The hydric soils are indicated by shading (USDA 2010, 2015).

Table 2 Soils

Soil Category	Soil Description	Hydric Rating	Acreage
Acid igneous rock land	Acid igneous rock land	No	3.8
Altamont clay	Altamont clay, 9% to 15% slopes	No	0.6
Altamont clay	Altamont clay, 15% to 30% slopes	No	11.4
Altamont clay	Altamont clay, 30% to 50% slopes	No	1.9
Carlsbad gravelly loamy sand	Carlsbad gravelly loamy sand, 2% to 5% slopes	Yes	5.6
Carlsbad-Urban land complex	Carlsbad-Urban land complex, 2% to 9% slopes	No	11.5
Chestern fine sandy loam	Chesterton fine sandy loam, 5% to 9% slopes	No	3.5
Chestern fine sandy loam	Chesterton fine sandy loam, 9% to 15% slopes, eroded	No	1.3
Chestern fine sandy loam	Chesterton fine sandy loam, 2% to 5% slopes	Yes	47.9
Chestern-Urban land complex	Chesterton-Urban land complex, 2% to 9% slopes	No	39.4
Cieneba rocky coarse sandy loam	Cieneba rocky coarse sandy loam, 9% to 30% slopes, eroded	No	2.1

Table 2 Soils

Soil Category	Soil Description	Hydric Rating	Acreage
Cieneba very rocky coarse sandy loam	Cieneba very rocky coarse sandy loam, 30% to 75% slopes	No	23.4
Cieneba-Fallbrook rocky sandy loams	Cieneba-Fallbrook rocky sandy loams, 30% to 65% slopes, eroded	No	4.3
Corralis loamy sand	Corralitos loamy sand, 0% to 5% slopes	Yes	2.0
Diablo clay	Diablo clay, 2% to 9% slopes	No	5.7
Diablo clay	Diablo clay, 15% to 30% slopes	No	16.8
Diablo-Olivenhain complex	Diablo-Olivenhain complex, 9% to 30% slopes	No	15.1
Fallbrook rocky sandy loam	Fallbrook rocky sandy loam, 9% to 30% slopes	No	0.0
Fallbrook sandy loam	Fallbrook sandy loam, 9% to 15% slopes, eroded	No	7.5
Fallbrook-Vista sandy loams	Fallbrook-Vista sandy loams, 15% to 30% slopes	No	0.7
Friant rocky fine sandy loam	Friant rocky fine sandy loam, 30% to 70% slopes	No	4.3
Gaviota fine sandy loam	Gaviota fine sandy loam, 30% to 50% slopes	No	11.8
Grangeville fine sandy loam	Grangeville fine sandy loam, 0% to 2% slopes	Yes	2.0
Gravel pits	Gravel pits	No	1.6
Huerhuero loam	Huerhuero loam, 9% to 15% slopes, eroded	No	2.3
Huerhuero loam	Huerhuero loam, 15% to 30% slopes, eroded	No	9.0
Huerhuero loam	Huerhuero loam, 2% to 9% slopes	Yes	1.8
Huerhuero-Urban land complex	Huerhuero-Urban land complex, 2% to 9% slopes	No	22.2
Huerhuero-Urban land complex	Huerhuero-Urban land complex, 9% to 30% slopes	No	2.3
Lagoon water	Lagoon water	No	0.2
Loamy alluvial land-Huerhuero complex	Loamy alluvial land-Huerhuero complex, 9% to 50% slopes, severely eroded	Yes	0.9
Metamorphic rock land	Metamorphic rock land	No	4.3
Olivenhain cobbly loam	Olivenhain cobbly loam, 30% to 50% slopes	No	20.7
Olivenhain cobbly loam	Olivenhain cobbly loam, 9% to 30% slopes	Yes	0.5
Placentia sandy loam	Placentia sandy loam, thick surface, 2% to 9% slopes	Yes	8.6
Ramona sandy loam	Ramona sandy loam, 5% to 9% slopes	No	7.3
Redding cobbly loam	Redding cobbly loam, 9% to 30% slopes	Yes	26.9
Redding cobbly loam dissected	Redding cobbly loam, dissected, 15% to 50% slopes	No	17.9
Redding gravelly loam	Redding gravelly loam, 2% to 9% slopes	Yes	191.0
Redding-Urban land complex	Redding-Urban land complex, 2% to 9% slopes	No	30.6
Redding-Urban land complex	Redding-Urban land complex, 9% to 30% slopes	No	13.5
Riverwash	Riverwash	Yes	18.4
Salinas clay	Salinas clay, 0% to 2% slopes	No	2.6
Salinas clay loam	Salinas clay loam, 2% to 9% slopes	No	6.6
stony land	Stony land	No	2.7
Terrace escarpments	Terrace escarpments	No	28.5

Table 2 Soils

Soil Category	Soil Description	Hydric Rating	Acreage
Tujunga sand	Tujunga sand, 0% to 5% slopes	Yes	21.3
Urban land	Urban land	No	7.8
Visalia gravelly sandy loam	Visalia gravelly sandy loam, 2% to 5% slopes	No	1.8
Visalia gravelly sandy loam	Visalia gravelly sandy loam, 5% to 9% slopes	No	1.3
Visalia sandy loam	Visalia sandy loam, 0% to 2% slopes	Yes	38.6
Water	Water	No	16.9
		Total	730.6

Sources: USDA 2016a, 2010, 2015. **Note:** Shaded rows denote hydric soils.

Hydrology

The Study Area lies within the San Diego and Peñasquitos Hydrologic Units. The San Diego Hydrologic Unit (906.00) is a long, triangular area covering approximately 440 square miles; the Peñasquitos Hydrologic Unit (907.00) is a triangular area covering approximately 170 square miles (Figure 5, Hydrologic Setting) (SDRWQCB 2002). These hydrologic units are bordered by the San Dieguito Hydrologic Unit to the north and Pueblo San Diego and Sweetwater Hydrologic Units to the south. The Study Area lies within the Miramar, Miramar Reservoir, Tecolote, Mission San Diego, Santee, and Fernbrook Hydrologic Subareas (Figure 5).

The San Diego Hydrologic Unit includes the San Diego River and its tributaries, with the San Vicente, Jennings, Murray, El Capitan, and Cuyamaca Reservoirs providing major water storage within the unit. Historically the San Diego River flowed into San Diego Bay and Mission Bay; however, the channelized river now flows directly into the Pacific Ocean (SDRWQCB 2002).

The Peñasquitos Hydrologic Unit includes Tecolote Creek and several other small creeks and Miramar Reservoir. This hydrologic unit drains into Mission Bay or the San Diego River (SDRWQCB 2002).

The NHD identifies the San Diego River and Tecolote Creek and their tributaries as the drainage features within the Study Area. San Vicente Creek is also a prominent creek that flows into San Vicente Reservoir. Although the City does not routinely release water from the San Vicente Reservoir into the downstream portion of San Vicente Creek, the creek connects the reservoir to the San Diego River, which discharges into the Pacific Ocean near Mission Bay (SDCWA and ACOE 2008).

RESULTS OF SURVEY

Jurisdictional Aquatic Resources

As described in the introduction, the 730.6-acre Study Area consists of the North City Project Alternatives (Miramar Reservoir Alternative and the San Vicente Reservoir Alternative) and an approximately 50-foot buffer along the linear portions of the Proposed Action (Figure 2). The features evaluated during the survey were typically tributaries to, or part of, the San Diego River, Tecolote Creek, San Vicente Reservoir, and Miramar Reservoir. Other features included vernal pools, as well as riparian habitat not associated with waters of the United States.

This section includes the results of the survey described by each alternative separately; the results are shown on Figures 6A–6P, Special Aquatic Resources. Table 3 includes a detailed summary and description of the San Vicente Reservoir and San Vicente Creek, Miramar Reservoir, San Diego River, and Tecolote Creek, which was used to determine the jurisdictional aquatic resources subject to state and/or federal regulations.

Table 3
Summary of Jurisdictional Areas in Study Area

Attribute	San Vicente Reservoir and San Vicente Creek	Miramar Reservoir	San Diego River	Tecolote Creek	Rose Creek/San Clemente Creek
On-site location	The San Vicente Reservoir sits at the eastern extent of the San Vicente Pure Water Pipeline. The reservoir is located east of State Route 67 (SR-67) and north of Interstate 8 (I-8), north of the City of Lakeside, in San Diego County, California. The reservoir was formed within the Cuyamaca Mountains by the damming of San Vicente Creek and the Colorado River via the First San Diego Aqueduct. The reservoir is surrounded by steep, rocky slopes containing mostly chaparral and coastal sage scrub habitats. Wetland vegetation along the shoreline is limited due to the fluctuating water levels and maintenance activities. The San Vicente Reservoir Dam Raise was completed in 2014 to raise the inundation area from the existing OHWM of 650 feet amsl to a new spillway elevation of approximately 766 feet amsl (excluding an Emergency Storage Project area, which was raised to approximately 710 feet amsl)	The Miramar Reservoir sits at the northern extent of the North City Pure Water Pipeline located within the Scripps Ranch community of the City of San Diego. The reservoir is located east of I-15, north of Pomerado Road, and south of Scripps Poway Parkway. The dam and reservoir were completed in 1960 as part of the Second San Diego Aqueduct project. Water flowing south to the reservoir originates from both the Colorado River Aqueduct and the California Aqueduct¹ (City of San Diego 2016a). The reservoir is surrounded by a mixture of wetland and upland habitats, including coastal sage scrub and eucalyptus woodland. Wetland vegetation, mainly freshwater marsh, is found along the majority of the reservoir's perimeter (Figure 6F).	The San Diego River originates north of SR-79 between San Ysabel and Julian within the Cuyamaca Mountains, and runs southwest through an unincorporated area of San Diego County before entering El Capitan Reservoir. Downstream of El Capitan Reservoir, the river flows westward through the cities of Santee and San Diego and past Famosa Slough to the San Diego River Estuary. The river discharges into the Pacific Ocean just south of the jettied entrance of Mission Bay in the community of Ocean Beach (Figure 5). The San Vicente Pure Water Pipeline crosses the San Diego River three times, once near the intersection of West Hills Parkway and SR-52, once south of Carlton Oaks Drive, and	Tecolote Creek sits between I-5 and I-805, north of I-8, forming the southern boundary of Clairemont Mesa, a community within the north-central portion of the City of San Diego (Figure 5). The Wastewater Forcemain and Brine Line (Morena Pipelines) intersect Tecolote Creek along West Moreno Boulevard (Figure 6A).	The proposed Morena Pipelines crosses San Clemente Creek south of SR-52 east of Marian Bear Memorial Park and crosses Rose Creek north of SR-52, east of Rose Canyon Open Space Park. The Landfill Gas (LFG) Pipeline crosses both creeks farther east.

Table 3
Summary of Jurisdictional Areas in Study Area

Attribute	San Vicente Reservoir and San Vicente Creek	Miramar Reservoir	San Diego River	Tecolote Creek	Rose Creek/San Clemente Creek
	(ACOE 2009). The new spillway elevation was used in combination with information provided by the City (Adleberg, pers. comm. 2016a) to determine the OHWM of the San Vicente Reservoir (Figures 6O, 6P).		again north of the intersection of Mission Gorge and Princess View Drive.		
Tributaries present	There are approximately 10 intermittent tributaries that flow into the San Vicente Reservoir from the surrounding steep slopes. Two named tributaries, San Vicente Creek and the First San Diego Aqueduct, are the major inflow sources to the reservoir. The San Vicente Creek watershed (upstream of the dam) covers approximately 74 square miles and includes several ephemeral drainages, including Padre Barona Creek, Foster Creek, West Branch Creek, and San Vicente Creek (SDCWA and ACOE 2008). San Vicente Creek flows southwest from Ramona through the Cuyamaca Mountains and into the reservoir. San Vicente Creek continues downstream of the San Vicente Dam until it merges with the San Diego River. The First San	The Second San Diego Aqueduct is the major inflow source to the Miramar Reservoir. There are no natural sources of flow into the reservoir. Based on a review of NHD flowlines, historic aerials, and topographic maps, there is only one NHD flowline at the northeastern end of the reservoir that terminates approximately 1,100 feet away from the reservoir.	The San Diego River has numerous tributaries along the entirety of its length, but the major inflow sources can be ascribed to the following tributaries: Boulder Creek, Cedar Creek, Conejos Creek, Chocolate Creek, Los Coches Creek, San Vicente Creek, and Forester Creek (USGS 2016). Only a few of these, including Forester Creek and San Vicente Creek, occur in the vicinity of the Study Area. San Vicente Creek flows southwest from Ramona, through the Cuyamaca Mountains and into the San Vicente Creek	There are approximately seven intermittent tributaries that flow into Tecolote Creek from the surrounding steep slopes and canyons (USGS 2016).	San Clemente Creek is a tributary to Rose Creek. There are five unnamed tributaries of Rose Creek upstream of the confluence of Rose and San Clemente creeks. There are three unnamed tributaries of San Clemente Creek.

Table 3
Summary of Jurisdictional Areas in Study Area

Attribute	San Vicente Reservoir and San Vicente Creek	Miramar Reservoir	San Diego River	Tecolote Creek	Rose Creek/San Clemente Creek
	Diego Aqueduct flows from the		continues downstream of		
	Colorado River Aqueduct in San		the San Vicente Dam until		
	Jacinto, California, south through		it merges with the San		
	underground pipes to the		Diego River. The		
	reservoir. The First San Diego		headwaters for Forester		
	Aqueduct enters the reservoir		Creek begin north of		
	along the southwestern edge,		Crest, an unincorporated		
	where it flows aboveground		community in San Diego		
	through a water discharge		County. Forester Creek		
	structure and into a perennial		parallels La Cresta Road		
	stream that flows into the		as it heads west toward I-		
	reservoir.		8 into El Cajon. Once in El		
			Cajon, the creek flows		
			north into Santee along		
			North Johnson and		
			Marshall Avenues. The		
			creek flows under SR-52		
			and converges with the		
			San Diego River near SR- 52 and West Hills		
			Parkway. Forester Creek		
			is channelized all through El Cajon and Santee, but		
			the headwaters contain		
			oak woodland, and		
			southern willow scrub can		
			be found at the		
			downstream end of the		
			creek near its confluence		
			with the San Diego River		
			(Google Earth 2016).		

Table 3
Summary of Jurisdictional Areas in Study Area

Attribute	San Vicente Reservoir and San Vicente Creek	Miramar Reservoir	San Diego River	Tecolote Creek	Rose Creek/San Clemente Creek
On-site topography	The San Vicente Reservoir is surrounded by steep slopes due to the surrounding hilly terrain. San Vicente Creek and West Branch San Vicente Creek are the longest tributaries to the reservoir, with elevations of approximately 2,690 feet amsl and 1,800 feet amsl, respectively. The First San Diego Aqueduct flows aboveground through the discharge structure at approximately 760 feet amsl before entering the reservoir. The other tributaries range in elevation from 1,340 feet amslo to 1,760 feet amsl, flowing into the reservoir from the east, north, and west.	The elevation of the Miramar Reservoir is approximately 700 feet amsl, and the reservoir surrounded by residential development and the Miramar Water Treatment Plant.	The San Diego River flows from its headwaters within the Cuyamaca Mountains at approximately 3,720 feet amsl to its mouth at the Pacific Ocean.	Tecolote Creek flows from its headwaters at approximately 350 feet amsl to the Pacific Ocean via Mission Bay and the San Diego River.	San Clemente Creek occurs at approximately 480 feet amsl at the headwaters and 120 feet at the confluence of San Clemente Creek and Rose Creek. Rose Creek occurs at approximately 10 feet amsl to 640 feet amsl. The proposed LFG Pipeline crosses both San Clemente Creek and Rose Creek at approximately 280 feet amsl. The Morena Pipelines cross both creeks at approximately 200 feet amsl.
Hydrology	The San Vicente Reservoir lies within the Fernbrook Hydrologic Subarea of the San Vicente Hydrologic Area of the San Diego Hydrologic Unit (Figure 5) (SDRWQCB 1995). The San Diego Hydrologic Unit is approximately 440 square miles, is drained by the San Diego River, and receives annual precipitation ranging from less than 11 inches	The Miramar Reservoir lies within the Miramar Hydrologic Area of the Peñasquitos Hydrologic Unit (Figure 5) (SDRWQCB 1995). The Peñasquitos Hydrologic Unit is approximately 170 square miles, is drained by several small creeks, and receives annual precipitation ranging from less than 8 inches along	The San Diego River is within the San Diego Hydrologic Unit of the San Diego River Watershed Management Area (Figure 5). The San Diego Hydrologic Unit is approximately 440 square miles, is drained by the San Diego River, and receives annual	Tecolote Creek is within the Peñasquitos Hydrologic Unit (Figure 5), an area of approximately 170 square miles extending from the City of Poway to the east and the City of La Jolla to the west. Annual precipitation in the hydrologic unit ranges from less than 8 inches along the coast to 18 inches inland.	Rose Creek and San Clemente Creek lie within the Miramar Subarea of the Peñasquitos Hydrologic Unit. The Peñasquitos Hydrologic Unit is approximately 100 square miles. It drains the largely urbanized areas west of I-15 in

Table 3
Summary of Jurisdictional Areas in Study Area

Attribute	San Vicente Reservoir and San Vicente Creek	Miramar Reservoir	San Diego River	Tecolote Creek	Rose Creek/San Clemente Creek
	along the coast to about 35 inches around the Cuyamaca and El Capitan reservoirs (SDRWQCB 2002).	the coast to approximately 18 inches inland (SDRWQCB 2002).	precipitation ranging from less than 11 inches along the coast to about 35 inches around the Cuyamaca and El Capitan Reservoirs (SDRWQCB 2002).	Several small creeks drain this hydrologic unit, including Tecolote Creek. Drainage from the hydrologic unit ultimately flows into Mission Bay or the San Diego River.	coastal San Diego County. The major receiving waters include Los Peñasquitos Lagoon and Mission Bay.
Tributary to?	San Vicente Creek flows downstream of the San Vicente Dam, and although the City does not routinely release water from the San Vicente Reservoir into San Vicente Creek, the creek connects the reservoir to the San Diego River, which discharges into the Pacific Ocean near Mission Bay (SDCWA and ACOE 2008). According to the Carryover Storage and San Vicente Dam Raise Environmental Impact Report/ Environmental Impact Statement (SDCWA and ACOE 2008), this downstream portion of San Vicente Creek contains both jurisdictional wetlands and waters regulated by ACOE and CDFW.	The Miramar Reservoir does not have connectivity to waters of the United States. There are no natural sources of flows into the reservoir. The reservoir itself stores water from the Colorado River, which is transported through the Second San Diego Aqueduct. Water is not released from the reservoir. The pond located south of the reservoir ("Evans Pond") receives water from a storm drain and untreated water from various reservoirs (Adleberg, pers. comm. 2016b).	The San Diego River historically flowed into Mission Bay; however, the river has been channelized and redirected to now flow directly into the Pacific Ocean (SDRWQCB 2002).	Tecolote Creek flows into Mission Bay and out to the Pacific Ocean.	San Clemente Creek is a tributary to Rose Creek. Rose Creek is not a tributary to any other waters and flows to the Pacific Ocean via Mission Bay.
Riparian vegetation present?	Within the Study Area, there are two areas within San Vicente Creek that contain riparian	Within the Study Area, there is riparian vegetation, mapped as freshwater marsh, present	The San Diego River contains an extensive amount of riparian	Tecolote Creek is a natural streambed containing riparian vegetation as it	On site, southern sycamore–alder riparian woodland and
p. soone.	vegetation. The first area	along the Miramar Reservoir's	vegetation, and within the	flows through the open	southern willow scrub

Table 3
Summary of Jurisdictional Areas in Study Area

Attribute	San Vicente Reservoir and San Vicente Creek	Miramar Reservoir	San Diego River	Tecolote Creek	Rose Creek/San Clemente Creek
	(containing mulefat scrub) is downstream of the dam (Figure 6N), just south of the quarry and west of Moreno Avenue. The other area is farther south along the San Vicente Pure Water Pipeline and contains southern willow scrub where San Vicente Creek passes underneath Willow Road just west of Moreno Avenue (Figure 6M).	perimeter.	Study Area riparian vegetation occurs within all areas where the San Vicente Pure Water Pipeline crosses the San Diego River. The vegetation includes southern arroyo willow riparian forest, southern willow scrub, freshwater marsh, and Arundo- dominated riparian.	space of Tecolote Canyon, but becomes an unvegetated concrete-lined channel as it flows out into Mission Bay.	are mapped at San Clemente Creek. At Rose Creek, southern willow scrub is mapped.
Potential ACOE jurisdiction?	Yes. ACOE issued a permit for the Carryover Storage and San Vicente Reservoir Dam Raise Project (ACOE 2009).	Potential; needs ACOE confirmation. Prior to construction of the Miramar Reservoir, there was an impoundment at this location. Based on historic topographic maps, the impoundment received flow from a channel to the northeast that originated in the adjacent hills. Water discharged from the impoundment flowed south/southwest into another channel, which discharged into another impoundment (Historic Aerials 2016c). Since both of the dams were created prior to September 1, 1976	Yes	Yes	Yes

Table 3
Summary of Jurisdictional Areas in Study Area

Attribute	San Vicente Reservoir and San Vicente Creek	Miramar Reservoir	San Diego River	Tecolote Creek	Rose Creek/San Clemente Creek
		(grandfathered under the Nationwide Permits per 33 CFR 330.3), at the time the Clean Water Act began to be enforced in this area the reservoir was already long isolated from the downstream creek, so it may not be considered an (a)(4) water body.			

Note:

¹ The NHD refers to this as the Second San Diego Aqueduct (USGS 2016).

Waters of the United States

Areas mapped as waters of the United States exhibit characteristics of ACOE/RWQCB waters (ACOE 2008, 2010) and CDFW streambeds (i.e., defined bed and bank). Through either on-site evaluation or literature review, the channels, floodplains, or reservoirs were determined to connect to the San Vicente Creek, San Diego River, or Tecolote Creek and therefore to be hydrologically connected to navigable waters of the United States and jurisdictional under ACOE, RWQCB, and CDFW regulations.

Because an Approved Jurisdictional Determination has not been provided by the ACOE, for the purposes of this report, Miramar Reservoir and the pond to the south are considered potential waters of the United States. Based on a review of historic aerials and topographic maps (Historic Aerials 2016c), there was some hydrology in this area prior to construction of the dam; however, the reservoir itself stores water from the Colorado River that is transported through the Second San Diego Aqueduct. Water is not released from the reservoir, and the reservoir has no hydrologic connection to the downstream relic creek channel. Miramar Reservoir in its current condition is an isolated intrastate water body. The pond located south of the reservoir ("Evans Pond") receives water from a storm drain and untreated water from various reservoirs (Adleberg, pers. comm. 2016b).

Areas that did not exhibit hydrology characteristics per the ACOE guidelines (ACOE 1987, 2008, 2010) were not mapped as waters of the United States.

Waters of the State

The second type of potential jurisdictional aquatic resource includes riparian vegetation communities associated with stream channels. These areas are located on the slopes or banks outside the limits of the OHWM and therefore of the ACOE/RWQCB-regulated areas. The third type of jurisdictional aquatic resource on site is waters or riparian areas that do not appear to be associated with waters of the United States. These areas are mapped as CDFW-regulated resources.

California Coastal Commission

The North City Project is entirely outside the coastal zone, with the exception of one overflow pipe that extends approximately 200 feet within the boundary along Friars Road. However, based on communication with Alexander Llerandi at the CCC, the City has received concurrence that the overflow pipe is within the City's jurisdiction (and the CC's coastal development permit appealable jurisdiction) and can be processed locally (Llerandi, pers. comm. 2017). Therefore, no jurisdictional aquatic resources are considered to be regulated by the CCC.

City of San Diego

The City of San Diego regulates jurisdictional aquatic resources, or "wetlands," according to the City's Biological Guidelines (City of San Diego 2012). The intention of the definition is to differentiate uplands from wetlands. Under the City's definition, wetlands can include vegetation communities such as freshwater marsh, riparian forest, riparian scrub, or vernal pools. They may also include areas that have hydric soil or wetland hydrology, but human activities have resulted in a lack of hydrophytic vegetation (e.g., channelized streambeds) or recurring natural events (City of San Diego 2012). However, "seasonal drainage patterns that are sufficient enough to etch the landscape (i.e., ephemeral/intermittent drainages) may not be sufficient enough to support wetland dependent vegetation. These types of drainages would not satisfy the City's wetland definition unless wetland dependent vegetation is either present in the drainage or lacking due to past human activities. Seasonal drainage patterns may constitute "waters of the United States" which are regulated by the Army Corps of Engineers and/or the California Department of Fish and Game" (City of San Diego 2012).

Jurisdictional Aquatic Resources Summary by Alternative

Wetlands and non-wetland waters within the Study Area for both Project Alternatives under the jurisdiction of ACOE/RWQCB, streambeds and associated riparian areas under CDFW jurisdiction, and/or wetlands regulated by the City of San Diego total 35.27 acres; these resources are shown on Figures 6A–6P.

Miramar Reservoir Alternative

The total wetlands and non-wetland waters in the Miramar Reservoir Alternative under the jurisdiction of ACOE/RWQCB, streambeds and associated riparian areas under CDFW jurisdiction, and/or wetlands regulated by the City of San Diego is 2.96 acres.

Table 4 lists the jurisdictional aquatic resources and acreages in the Miramar Reservoir Alternative, and Figures 6A–6G show the location of those resources.

Table 4
Jurisdictional Aquatic Resources in the Miramar Reservoir Alternative (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB1	CDFW ¹	City of San Diego Wetlands ¹			
Wetlan	Wetland or Riparian Areas					
Cismontane alkali marsh	0.02	0.02	0.02			
Coast live oak woodland	_	0.09	0.09			
Coastal and valley freshwater marsh	0.37	0.37	0.37			

Table 4

Jurisdictional Aquatic Resources in the Miramar Reservoir Alternative (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB1	CDFW ¹	City of San Diego Wetlands ¹
Disturbed coast live oak woodland	_	0.06	0.06
Disturbed southern riparian forest	_	0.02	0.02
Mulefat scrub	0.04	0.07	0.07
Southern arroyo willow riparian forest	_	0.02	0.02
Southern willow scrub	0.25	0.25	0.25
Vernal pool	0.56	_	0.982
Total riparian/wetlands	1.23	0.89	1.88
Non-wetla	and Waters/Streambed		
Ephemeral stream channel (Developed – Concrete Channel)	0.03	0.03	_
Ephemeral Stream Channel (Disturbed Wetland)	0.11	0.11	0.11
Ephemeral Stream Channel (Non-vegetated Channel)	0.51	0.46	0.46
Perennial stream channel	0.51	0.51	0.51
Total non-wetland waters/streambed	1.16	1.12	1.10
Total jurisdictional area ³	2.40	2.01	2.96

Notes:

- 1 The acreages listed in the ACOE, RWQCB, CDFW, and City of San Diego Wetlands columns overlap and should not be summed together.
- This 0.98 acre of vernal pool may also be regulated by the RWQCB.

ACOE- jurisdictional areas within the Miramar Reservoir Alternative total 2.40 acres, including 1.23 acres of jurisdictional wetlands and 1.16 acres of non-wetland stream channels or lake features. Vernal pools within MCAS Miramar are considered ACOE- and RWQCB-jurisdictional and total 0.56 acre. This total includes the vernal pools within the LFG Pipeline (0.45 acre) and North City Pipeline (0.10 acre) study areas.

CDFW jurisdiction extends over all areas under ACOE and RWQCB jurisdiction discussed above and includes areas that meet ACOE wetland (i.e., hydrophytic) vegetation criteria but lack wetlands hydrology and/or hydric soils indicators. CDFW-jurisdictional areas on site total 2.01 acres, including 0.89 acres of riparian habitat and 1.12 acres of streambed or lake features.

The majority of the jurisdictional aquatic resources are considered wetlands by the City of San Diego, with the exception of 0.03 acre of ephemeral stream channel (developed – concrete channel within Tecolote Creek) that do not meet the City's criteria for a wetland. Also included under City jurisdiction are vernal pools, totaling 0.98 acre. The vernal pools occur with the study area for four components including LFG Pipeline (0.45 acre), Metro Biosolids Center (0.03 acre), North City Pipeline (0.12 acre), and the NCPWF (0.38 acre). The vernal pools at the

³ Acreage may not sum precisely due to rounding.

NCPWF, one vernal pool at the MBC, and one vernal pool along the North City Pipeline are small, isolated, and do not support listed species. However, RWQCB may try to assert jurisdiction over the vernal pools as wetland waters of the State under the Porter–Cologne Act (HELIX 2016c). The vernal pools would be considered City wetlands in accordance with the City's Biological Guidelines (City of San Diego 2012).

The Miramar Reservoir Alternative includes 0.03 acre within the Coastal Overlay Zone.

San Vicente Reservoir Alternative

The total wetlands and non-wetland waters in the San Vicente Reservoir Alternative under the jurisdiction of ACOE/RWQCB, streambeds and associated riparian areas under CDFW jurisdiction, and/or wetlands regulated by the City of San Diego is 32.31 acres.

Table 5 lists the jurisdictional aquatic resources and acreages in the San Vicente Reservoir Alternative and Figures 6A–6C and 6G–6P show the location of those resources.

Table 5

Jurisdictional Aquatic Resources in the San Vicente Reservoir Alternative (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB1	CDFW ¹	City of San Diego Wetlands ¹	
ouriousian, iqualis 1000urio	Wetland or Ripar	32.1.	1101111111	
Arundo-dominated riparian	0.33	0.39	0.39	
Cismontane alkali marsh	0.02	0.02	0.02	
Coast live oak woodland	_	0.09	0.09	
Coastal and valley freshwater marsh	0.29	0.29	0.29	
Disturbed coast live oak woodland	_	0.06	0.06	
Disturbed mulefat scrub	_	0.17	0.17	
Disturbed southern riparian forest	_	0.02	0.02	
Mulefat scrub	0.04	0.23	0.23	
Southern arroyo willow riparian forest	1.12	1.56	1.56	
Southern cottonwood-willow riparian forest	_	0.08	0.08	
Southern sycamore–alder riparian woodland	_	0.58	0.58	
Southern willow scrub	0.80	1.88	1.88	
Vernal pool	1.33	-	1.732	
Total riparian/wetlands	3.93	5.37	7.10	
Non-wetland Waters/Streambed				
Ephemeral Stream Channel (Developed – Concrete Channel)	0.03	0.03	_	
Ephemeral Stream Channel (Disturbed Wetland)	0.11	0.11	0.11	

Table 5
Jurisdictional Aquatic Resources in the San Vicente Reservoir Alternative (Acres)

Jurisdictional Aquatic Resource	ACOE/RWQCB1	CDFW ¹	City of San Diego Wetlands ¹
Ephemeral Stream Channel (Non-vegetated Channel)	1.69	0.95	0.94
Intermittent stream channel	0.06	0.06	0.06
Perennial stream channel/lake	24.10	24.10	24.10
Total non-wetland waters/streambed	25.99	25.26	25.24
Total jurisdictional area ³	29.92	30.63	32.31

Notes:

- 1 The acreages listed in the ACOE/RWQCB, CDFW, and City of San Diego Wetlands columns overlap and should not be summed together.
- This 1.73 acre of vernal pool may also be regulated by the RWQCB.
- Acreage may not sum precisely due to rounding.

ACOE- and RWQCB-jurisdictional areas within the San Vicente Reservoir Alternative total 29.92 acres, including 3.93 acres of jurisdictional wetlands and 25.99 acres of non-wetland stream channels/lake. Vernal pools within MCAS Miramar are considered ACOE- and RWQCB-jurisdictional and total 1.33 acres. This total includes the vernal pools within the LFG Pipeline (0.45 acre), and the San Vicente Pipeline – Repurposed 36-inch Recycled Water Line (0.87 acre) study areas.

CDFW jurisdiction extends over all areas under ACOE and RWQCB jurisdiction discussed above and includes areas that meet ACOE wetland (i.e., hydrophytic) vegetation criteria but lack wetlands hydrology and/or hydric soils indicators. CDFW-jurisdictional areas on site total 30.63 acres, including 5.37 acres of riparian habitat and 25.26 acres of non-wetland stream channels/lake.

The San Vicente Reservoir Alternative includes 0.03 acre within the Coastal Overlay Zone.

The majority of the jurisdictional aquatic resources are considered wetlands by the City of San Diego, with the exception of 0.75 acre of ephemeral stream channels (i.e., developed – concrete channel and non-vegetated channel) that do not meet the City's criteria for a wetland. Also included only under City jurisdiction, and potentially under RWQCB jurisdiction, are vernal pools, totaling 1.73 acre. Vernal pools occur within the study area of the following four components: LFG Pipeline (0.45 acre), MBC (0.03 acre), NCPWF (0.38 acre), and the along the San Vicente Pipeline – Repurposed 36-inch Recycled Water Line (0.87 acre). The vernal pools at the NCPWF, and the one vernal pool at the MBC are small, isolated, and do not support listed species. However, RWQCB may assert jurisdiction over the vernal pools as wetland waters of the state under the Porter-Cologne Act. The vernal pools would be considered City wetlands in accordance with the City's Biological Guidelines (City of San Diego 2012).

Data Stations

Vegetation, hydrology, and soils were examined at 40 wetland sampling points (data stations) within the Study Area (Figures 6A–6P) to determine the extent of jurisdictional aquatic resources. Due to access limitations and vegetation cover, some data stations are located outside the feature but within representative conditions of the feature. Table 6 lists the results of these data stations in terms of the three criteria that determine jurisdiction: vegetation, hydrology, and soils. Appendix A includes the data station forms, and Appendix B includes representative photos at each data station.

Table 6
Jurisdictional Data Station Results

Data				
Station	Wetland Vegetation	Wetland Soils	Hydrology	Jurisdictional Determination
1a	No	No	Yes	ACOE/CDFW/RWQCB
1b	No	Yes	Yes	ACOE/CDFW/RWQCB
1c	Yes	No	Yes	ACOE/CDFW/RWQCB
1d	No	No	No	CDFW
2	Yes	No	No	CDFW
3a	Yes	Yes	Yes	ACOE/CDFW/RWQCB
3b	No	No	No	Non-jurisdictional
4a	Yes	Yes	Yes	ACOE/CDFW/RWQCB
4b	Yes	Yes	Yes	ACOE/CDFW/RWQCB
4c	No	No	No	Non-jurisdictional
5a	Yes	No	Yes	ACOE/CDFW/RWQCB
5b	No	No	No	Non-jurisdictional
6a	No	No	Yes	ACOE/CDFW/RWQCB
6b	Yes	No	No	CDFW
6c	No	No	No	CDFW
6d	No	No	No	CDFW
7a	No	No	Yes	ACOE/CDFW/RWQCB
7b	No	No	No	Non-jurisdictional
8	No	No	Yes	ACOE/CDFW/RWQCB
9a	No	No	Yes	ACOE/CDFW/RWQCB
9b	Yes	No	No	CDFW
9c	No	No	No	Non-jurisdictional
10	Yes	No	Yes	CDFW
11	Yes	No	No	CDFW
12a	No	Yes	Yes	ACOE/CDFW/RWQCB
12b	Yes	Yes	Yes	ACOE/CDFW/RWQCB
12c	Yes	Yes	Yes	ACOE/CDFW/RWQCB

Data **Wetland Vegetation Wetland Soils** Station Hydrology **Jurisdictional Determination** 13 Yes No No **CDFW** 14a Yes Yes Yes ACOE/CDFW/RWQCB 14b Yes ACOE/CDFW/RWQCB No No 15a No Yes Yes ACOE/CDFW/RWQCB 15b Yes Yes ACOE/CDFW/RWQCB Yes 16a Yes Yes **CDFW** No 16b No No No Non-jurisdictional ACOE/CDFW/RWQCB 17a Yes Yes Yes 17b Yes Yes Yes ACOE/CDFW/RWQCB 17c No No Non-jurisdictional No 18 Yes ACOE/CDFW/RWQCB Nο Nο 19a No No Non-jurisdictional No

Yes

ACOE/CDFW/RWQCB

Table 6
Jurisdictional Data Station Results

Potential Vernal Pool Areas

Yes

19b

As stated in the methods, HELIX provided vernal pool data for areas surveyed in 2015/2016 (HELIX 2016c) over a variation of the Study Area at that time. The vernal pool survey area covered a portion of the jurisdictional delineation Study Area. The delineation focused on riparian vegetation communities and areas with NHD or topography that indicated potential aquatic features. Based on soil types (hydric and clay soils), slope (0%–10%), and vegetation, there may be potential for additional vernal pool features to occur in upland areas that have not been surveyed. On November 29, 2016, Dudek biologist Brock Ortega visited these areas and further refined the potential locations. Figures 7A–7F, Potentially Suitable for Vernal Pools, show these areas that were surveyed during the 2016/2017 wet season.

APPLICABLE REGULATIONS AND PERMIT REQUIREMENTS

Yes

Local – City of San Diego

Section 114 of the San Diego Municipal Code describes specific development regulations pertaining to sensitive biological resources, including wetlands. The City's definition of wetlands is broader than the definition applied by ACOE. Guidelines that supplement the development regulation requirements described in this section are provided in the San Diego Municipal Code,

Land Development Code—Biology Guidelines (City of San Diego 2012). The majority of the waters of the United States and/or state are considered wetlands under the City's guidelines.

State and Federal

The following is a summary of permit requirements relative to the jurisdictional waters/wetlands identified on site.

ACOE

ACOE has two programs that allow for fill of jurisdictional waters pursuant to Section 404 of the Clean Water Act: Nationwide Permits (NWPs) and Individual Permits. A review of environmental impacts associated with authorizations under NWPs has been completed in accordance with the National Environmental Policy Act, and a determination has been made that, based on criteria included in NWPs, impacts resulting from authorization of its use across the nation will not result in more than minimal adverse effect on aquatic resources. Further review of the proposed impacts and consultation with ACOE would be required to determine whether any NWPs authorize the proposed activities. An Individual Permit can be pursued if no NWPs apply to the Proposed Action.

RWQCB

According to the federal Clean Water Act, ACOE may not authorize the fill of jurisdictional waters without certification that the authorized activity will not substantially impact water quality. This provision is known as a Section 401 Water Quality Certification. Within California, the 401 Water Quality Certification is issued by the RWQCB where the activity is located. The Study Area lies within the San Diego Region (Region 9) of the State Water Resources Control Board.

RWQCB typically accepts the ACOE jurisdictional determination and will process a 401 Water Quality Certification for the areas considered for authorization of impacts by ACOE following a review of short- and long-term water quality control measures and overall project avoidance, minimization, and mitigation of jurisdictional impacts. In general, water quality control measures are reviewed with greater scrutiny but still based on the applicable local and state discharge requirements. RWQCB has, in select cases, taken jurisdiction over lands not included within the ACOE jurisdiction, generally consisting of isolated surface water, additional CDFW-jurisdictional wetlands, and in the case of vernal pools, isolated wetlands. The State Water Resources Control Board is considering adopting a statewide wetlands definition that, as currently contemplated, would include CDFW-jurisdictional riparian areas. RWQCB will not be able to issue the 401 Water Quality Certification or Waste Discharge Requirement until a valid

California Environmental Quality Act (CEQA) document covering the Proposed Action has been certified/adopted by the lead agency.

CDFW

In accordance with the Section 1600 of the California Fish and Game Code, a Streambed Alteration Agreement is required for fill and/or vegetation removal within CDFW-jurisdictional riparian areas and streambeds. CDFW will not issue a Streambed Alteration Agreement until a valid CEQA document is certified/adopted.

California Coastal Act

As mentioned above, no features are considered regulated by the CCC. The jurisdictional delineation study area surveyed included a 50-foot buffer from the proposed impact area, and there are resources in the San Diego River floodplain within this buffer that would be considered wetlands within the Coastal Overlay Zone, and therefore would require adherence to the Coastal Overlay Zone wetland buffer regulations (City of San Diego 2012). According to the City's Biological Guidelines, a wetland buffer is an area surrounding a wetland that helps protect the function and value of the adjacent wetland by reducing physical disturbance; provides a transition zone where one habitat phases into another; and acts to slow flood waters for flood and erosion control, sediment filtration, water purification, ground water recharge (City of San Diego 2012). Within the Coastal Overlay Zone, wetland buffers should be a minimum of 100 feet wide (as determined on a case-by-case basis in consultation with CDFW, USFWS, and the ACOE) adjacent to a wetland. The width of the buffer is determined by factors such as type and size of development, sensitivity of the wetland resource to edge effects, topography, and the need for upland transition (City of San Diego 2012).

Should you have any questions regarding this report or require additional information, please do not hesitate to contact me at 760.479.4293 or cford@dudek.com.

Sincerely,

Callie Amoaku

Biologist

Att: Figures 1–7F

Appendix A: Wetland Determination Data Forms Appendix B: Representative Photographs

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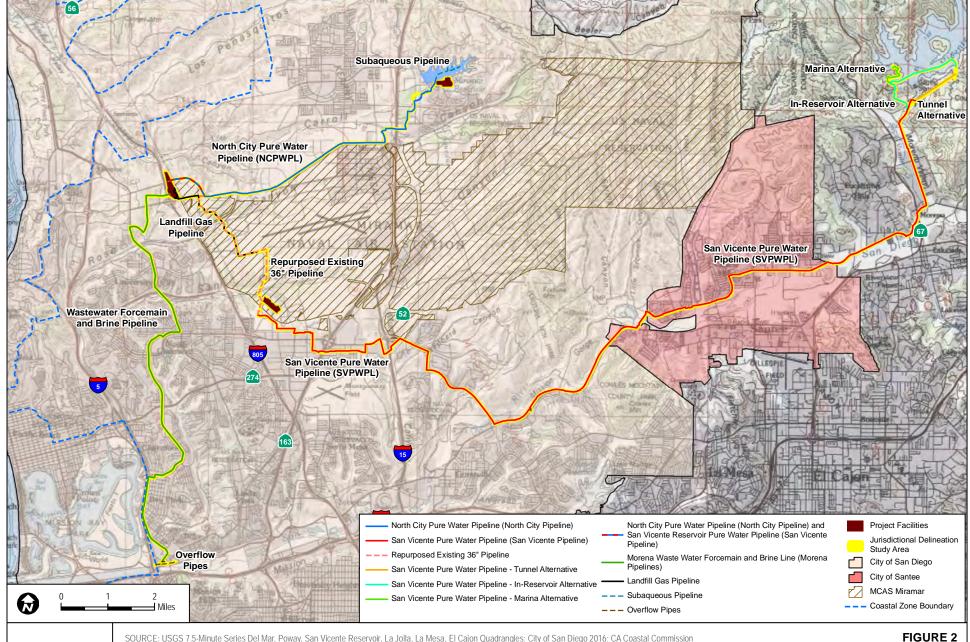
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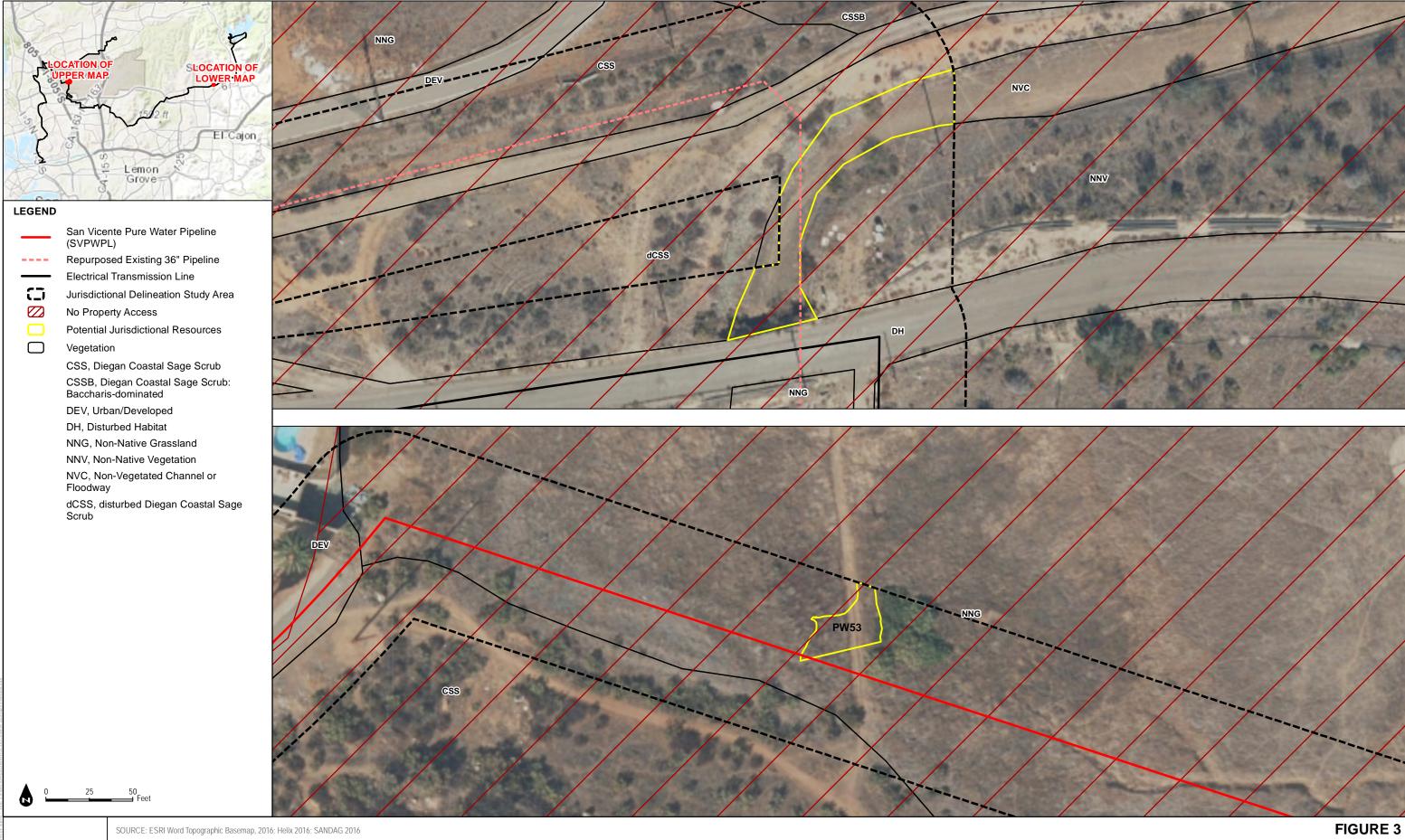


SOURCE: USGS 7.5-Minute Series Del Mar, Poway, San Vicente Reservoir, La Jolla, La Mesa, El Cajon Quadrangles; City of San Diego 2016; CA Coastal Commission

Vicinity Map

North City Project Jurisdictional Delineation

DUDEK



DUDEK

Methods - No Access

North City Project Jurisdictional Delineation

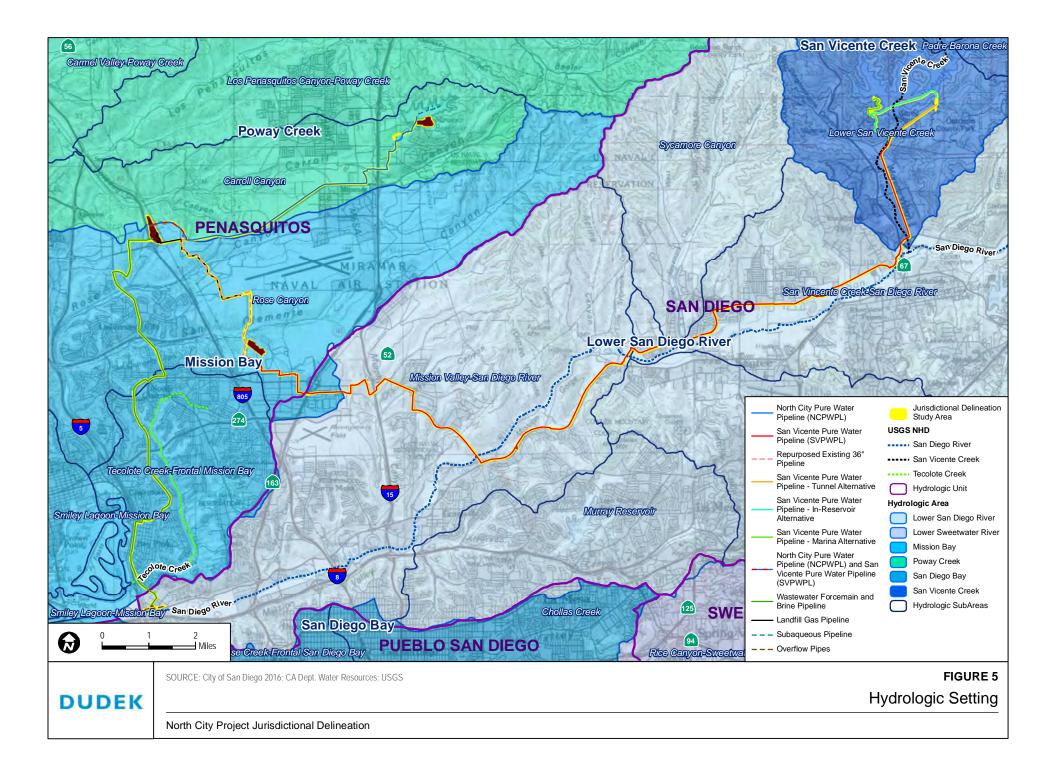


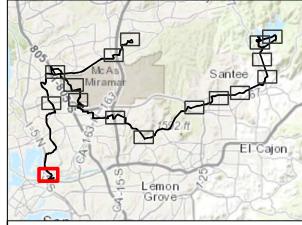
SOURCE: City of San Diego 2016; SanGIS 2016

DUDEK

Soils Map

North City Project Jurisdictional Delineation





Moreno Wastewater Forcemain and Brine Line

--- Overflow Pipes

Jurisdictional Delineation Study Area

Project Study Area

Vegetation (Wetland Communities Only)

CAM, Cismontane Alkali Marsh

FWM, Coastal and Valley Freshwater Marsh

MFS, Mulefat Scrub

NVC, Non-Vegetated Channel or Floodway

SWS, Southern Willow Scrub

Data Stations

Waters of the U.S. (ACOE/RWQCB/CDFW)

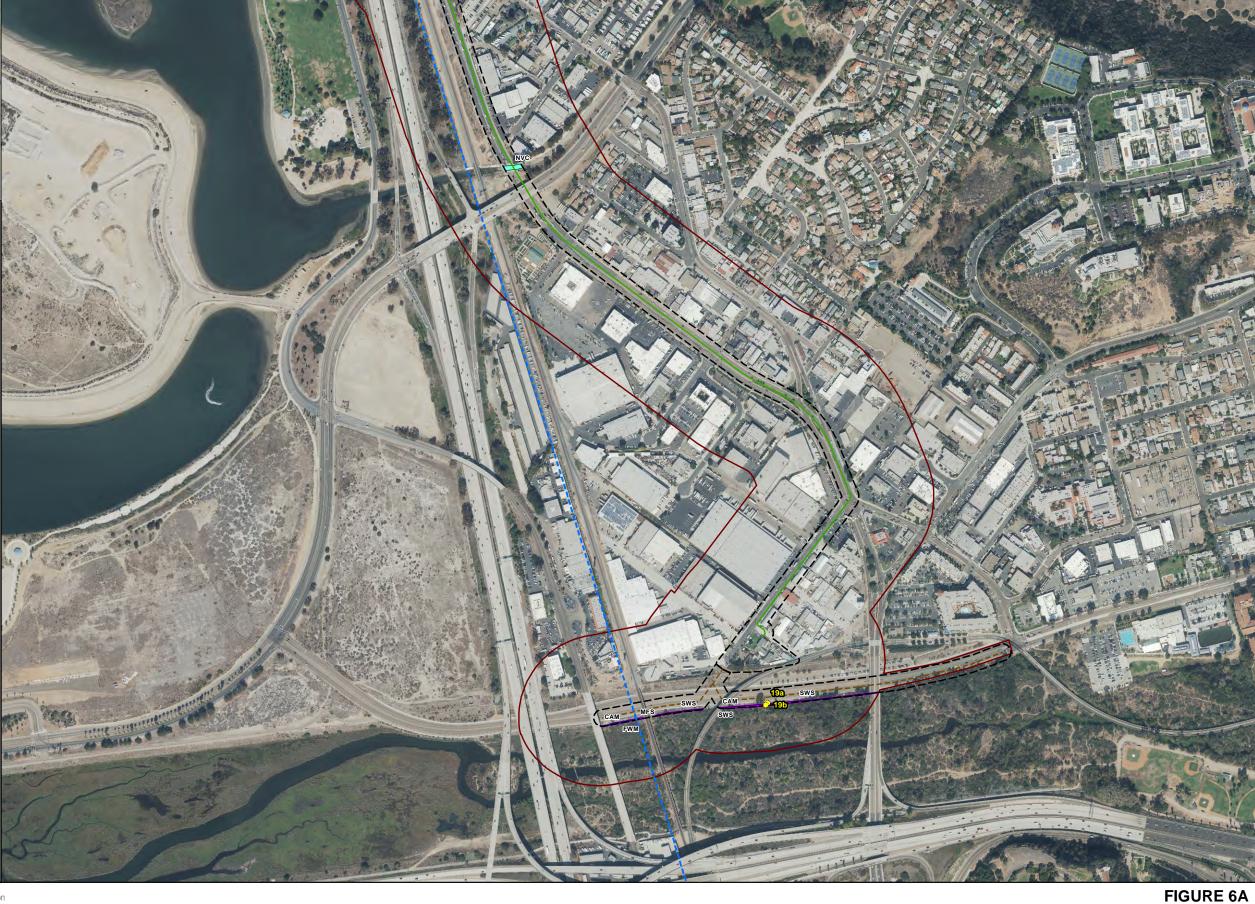
Non-wetland Water - Ephemeral

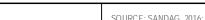
Wetland or Riparian Area

California Coastal Commission

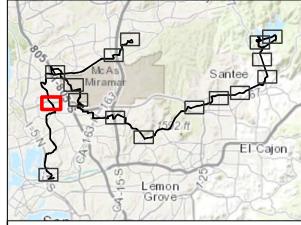
CCC-regulated Wetlands

Coastal Zone Boundary





SOURCE: SANDAG, 2016; CA Coastal Commission



Moreno Wastewater Forcemain and Brine Line

Jurisdictional Delineation Study Area

Project Study Area

Vegetation (Wetland Communities Only)

NVC, Non-Vegetated Channel or Floodway

SWRF, Southern Arroyo Willow Riparian Forest

Data Stations

Waters of the U.S. (ACOE/RWQCB/CDFW)

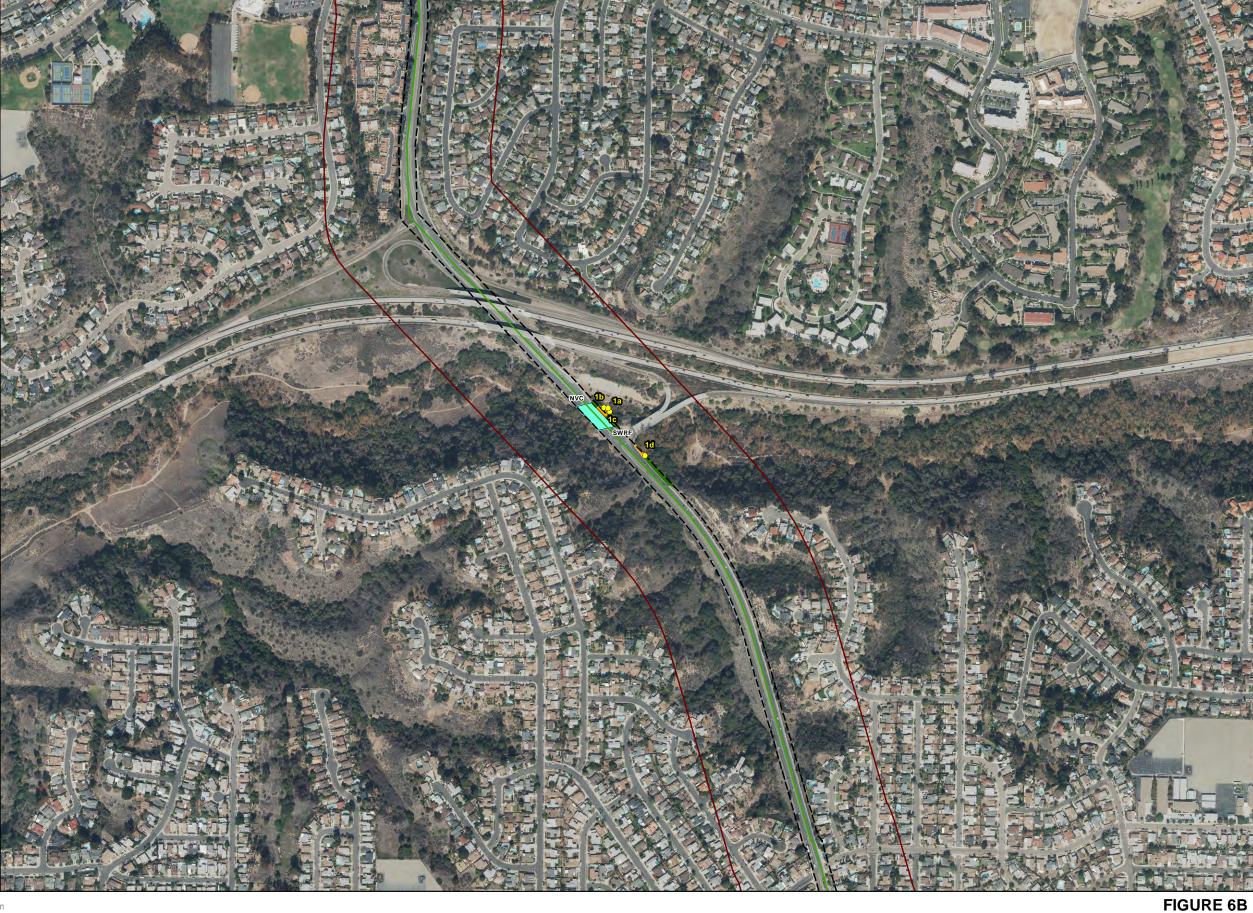
Non-wetland Water - Ephemeral

Waters of the State (CDFW Only)

Wetland or Riparian Area

Waters of the U.S. and State (ACOE/RWQCB)/Riparian Habitat (CDFW)

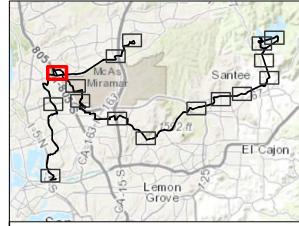
Non-wetland Water - Ephemeral (ACOE/RWCQB)/Riparian Area (CDFW)





DUDEK

SOURCE: SANDAG, 2016; CA Coastal Commission



North City Pipeline

San Vicente Pipeline

Repurposed Existing 36" Pipeline

North City Pipeline and San Vicente Pipeline

Moreno Wastewater Forcemain and Brine

Landfill Gas Pipeline

 \Box Jurisdictional Delineation Study Area

Project Study Area

Vegetation (Wetland Communities Only)

FWM, Coastal and Valley Freshwater Marsh

MFS, Mulefat Scrub

SWS, Southern Willow Scrub

VP, Vernal Pool

Data Stations

Waters of the U.S. (ACOE/RWQCB/CDFW)

Wetland or Riparian Area

Waters of the State (CDFW Only)

Wetland or Riparian Area

Waters of the State (RWQCB/CDFW)

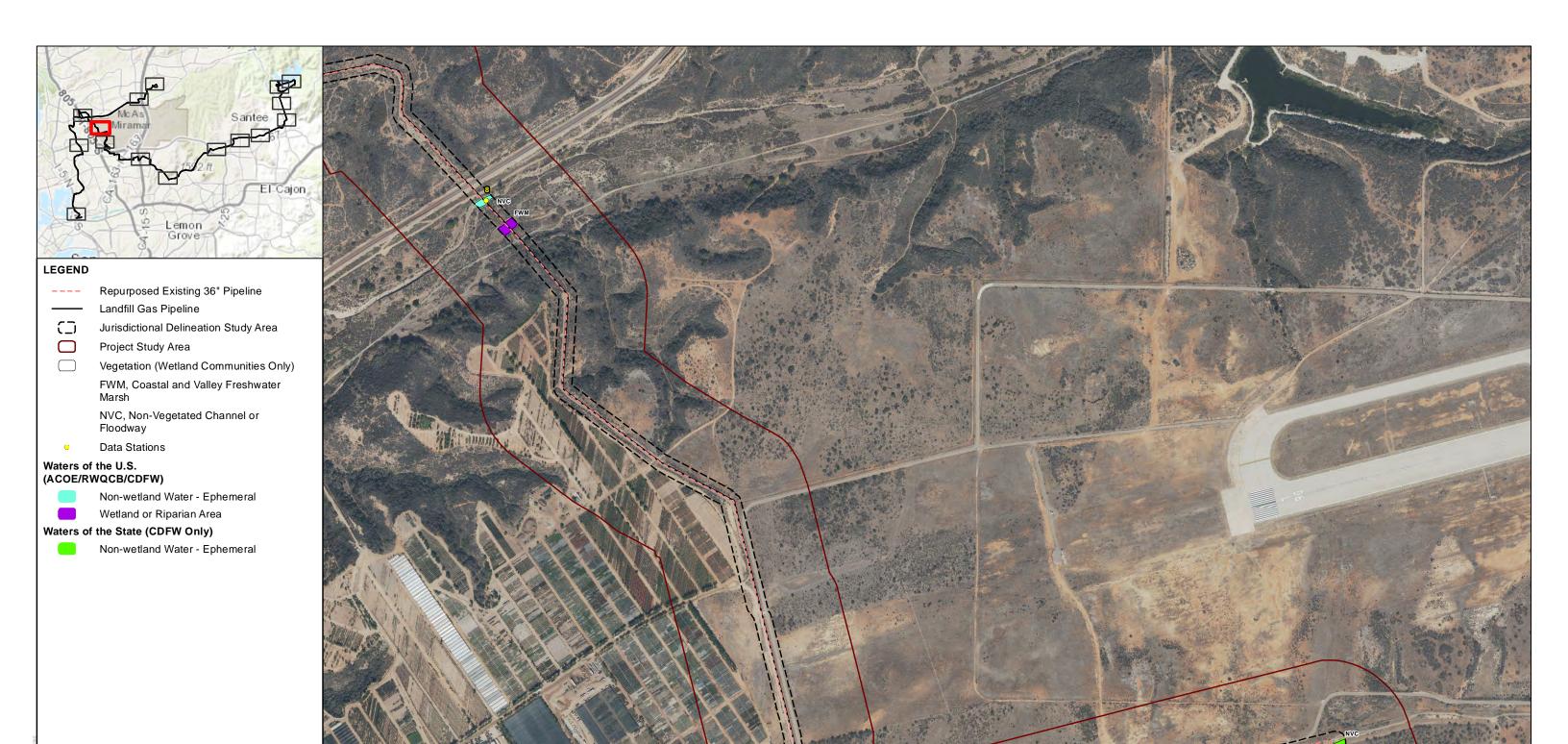
Wetland or Riparian Area





SOURCE: SANDAG, 2016; CA Coastal Commission

FIGURE 6C

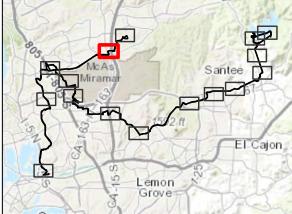


0 500 1,000 Feet

SOURCE: SANDAG, 2016; CA Coastal Commission

DUDEK

FIGURE 6D
Special Aquatic Resources



North City Pipeline

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Jurisdictional Delineation Study Area

Project Study Area

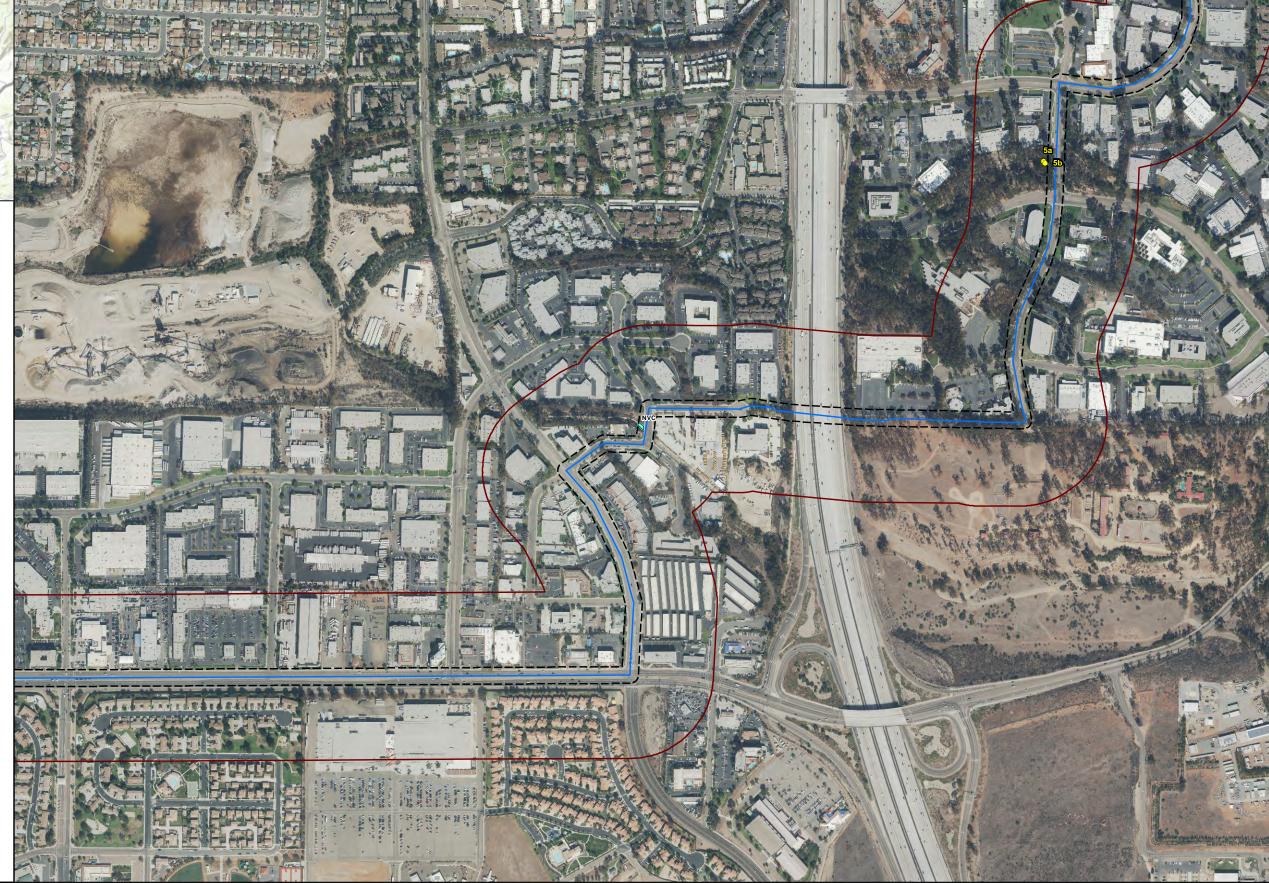
Vegetation (Wetland Communities Only)

NVC, Non-Vegetated Channel or Floodway

Data Stations

Waters of the U.S. (ACOE/RWQCB/CDFW)

Non-wetland Water - Ephemeral



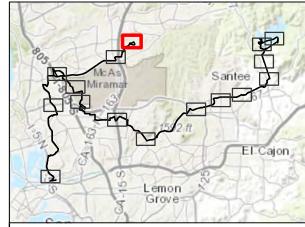


SOURCE: SANDAG, 2016; CA Coastal Commission

DUDEK

Special Aquatic Resources

FIGURE 6E



North City Pipeline

Subaqueous Pipeline

Jurisdictional Delineation Study Area

Project Study Area

Vegetation (Wetland Communities Only)

FWM, Coastal and Valley Freshwater Marsh

NVC, Non-Vegetated Channel or Floodway

Data Stations

Waters of the U.S. (ACOE/RWQCB/CDFW)

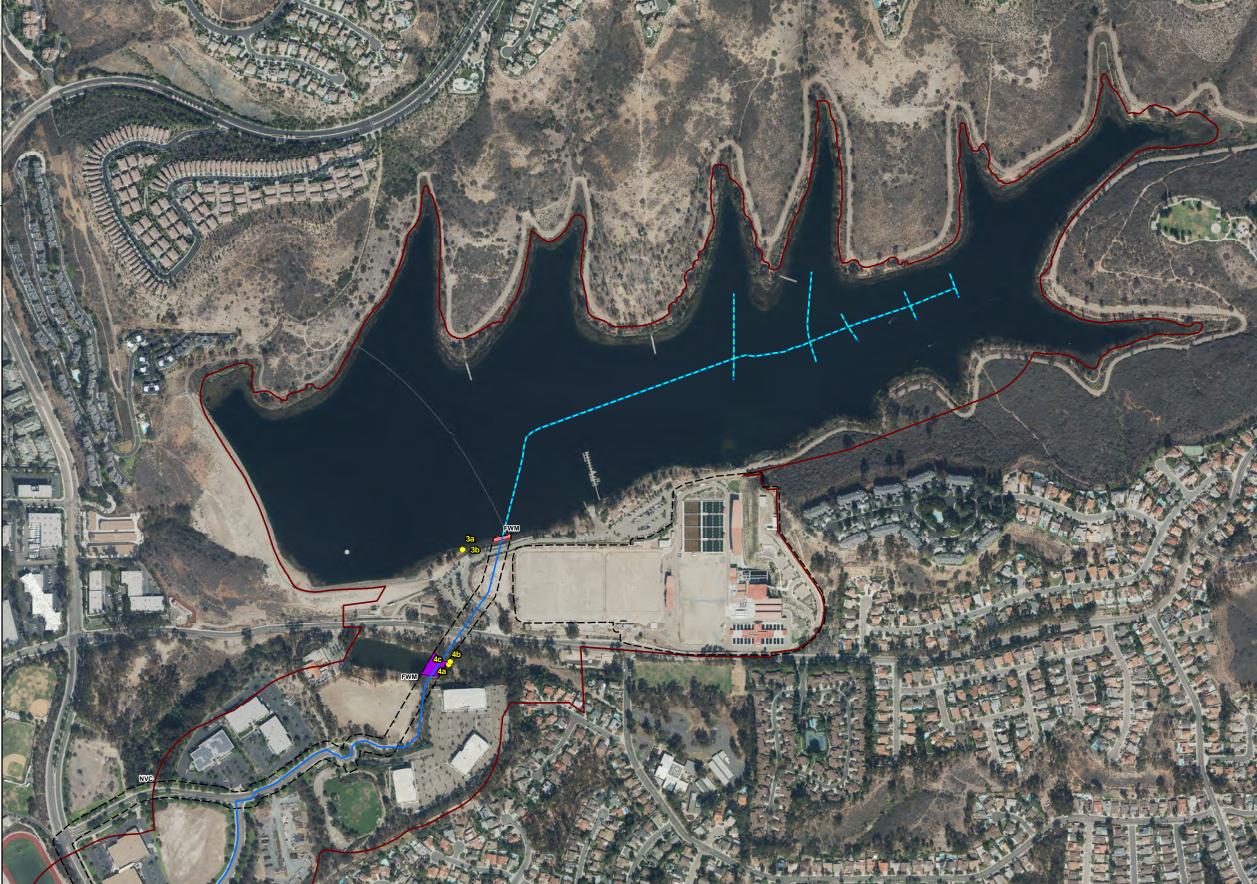
Non-wetland Water - Ephemeral

Non-wetland Water - Perennial

Wetland or Riparian Area

Waters of the State (ACOE/RWQCB/CDFW)

Water of the State (ACOE/RWQCB/CDFW), Wetland or Riparian Area

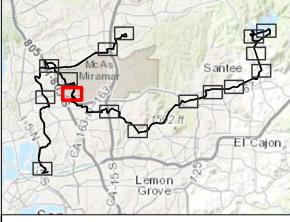




DUDEK

SOURCE: SANDAG, 2016; CA Coastal Commission

FIGURE 6F
Special Aquatic Resources



Repurposed Existing 36" Pipeline

 $C \supset I$

Jurisdictional Delineation Study Area

Project Study Area

Vegetation (Wetland Communities Only)

NVC, Non-Vegetated Channel or Floodway

SARW, Southern Sycamore-Alder Riparian Woodland

SWS, Southern Willow Scrub

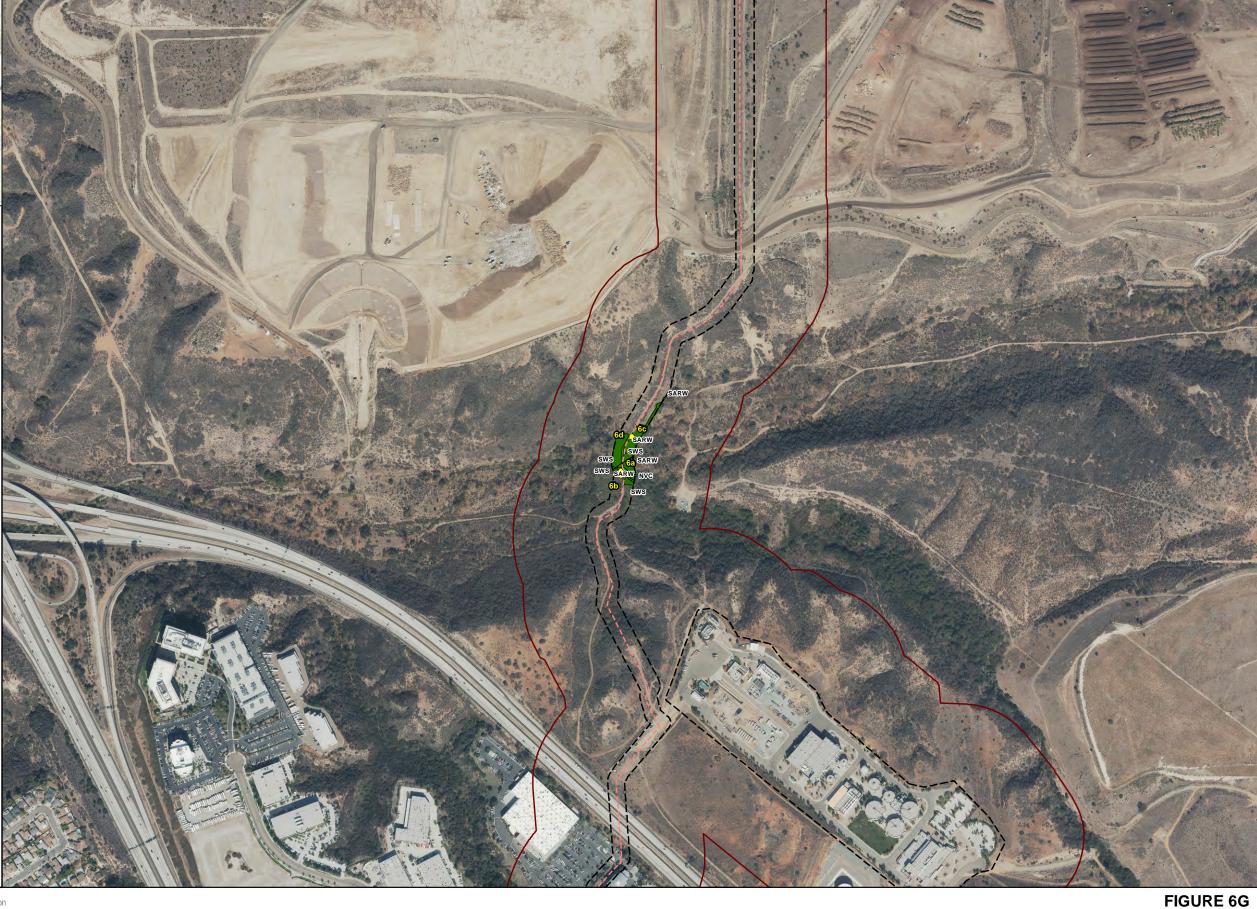
Data Stations

Waters of the U.S. (ACOE/RWQCB/CDFW)

Non-wetland Water - Ephemeral

Waters of the State (CDFW Only)

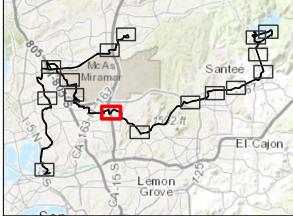
Wetland or Riparian Area





SOURCE: SANDAG, 2016; CA Coastal Commission

DUDEK



San Vicente Pipeline

Jurisdictional Delineation Study Area

Project Study Area

Vegetation (Wetland Communities Only)
NVC, Non-Vegetated Channel or

Floodway SCWRF, Southern Cottonwood-Willow Riparian Forest

SWS, Southern Willow Scrub

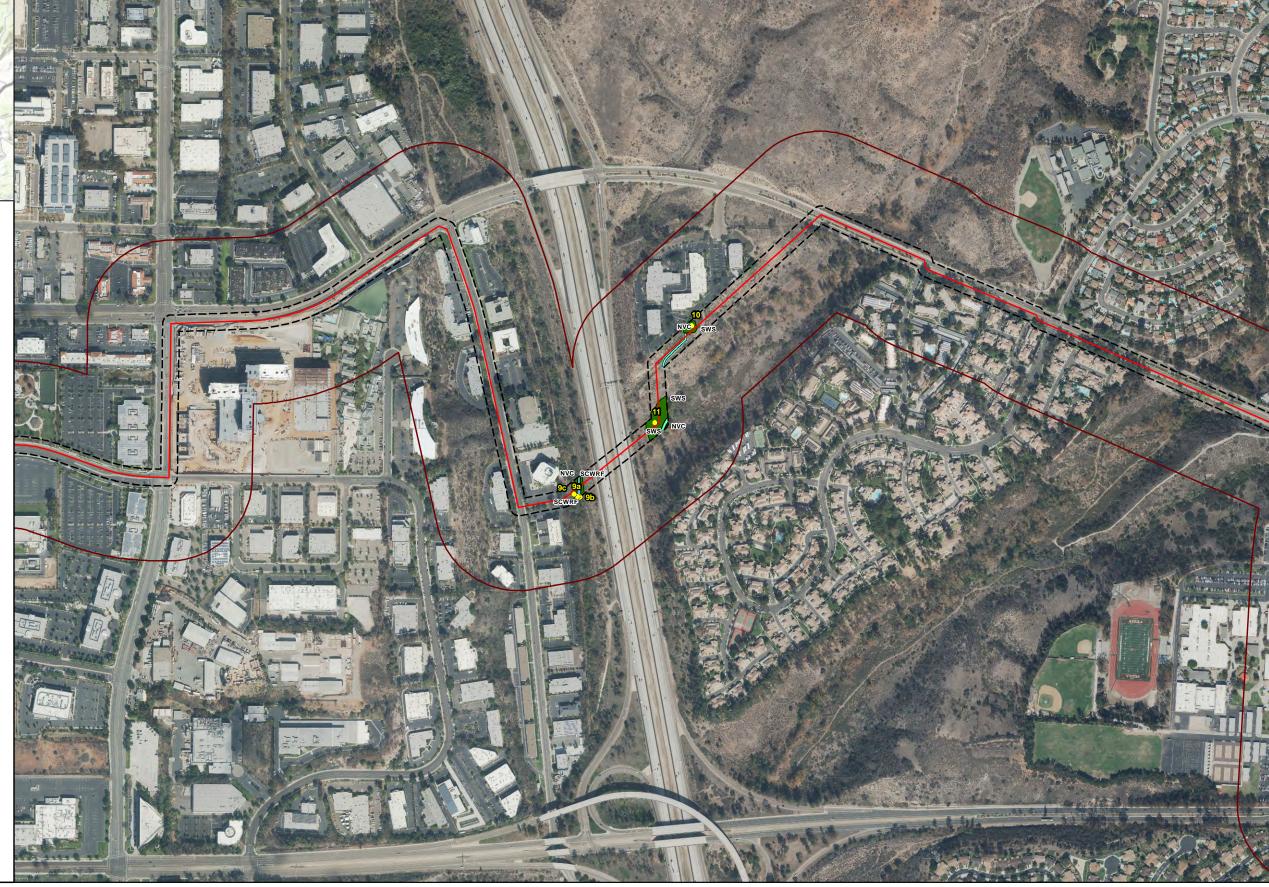
Data Stations

Waters of the U.S. (ACOE/RWQCB/CDFW)

Non-wetland Water - Ephemeral
Non-wetland Water - Intermittent

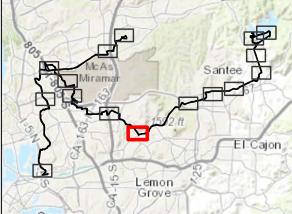
Waters of the State (CDFW Only)

Wetland or Riparian Area



SOURCE: SANDAG, 2016; CA Coastal Commission

FIGURE 6H



San Vicente Pipeline

Jurisdictional Delineation Study Area
Project Study Area

Vegetation (Wetland Communities Only)

ARU, Arundo-Dominated Riparian

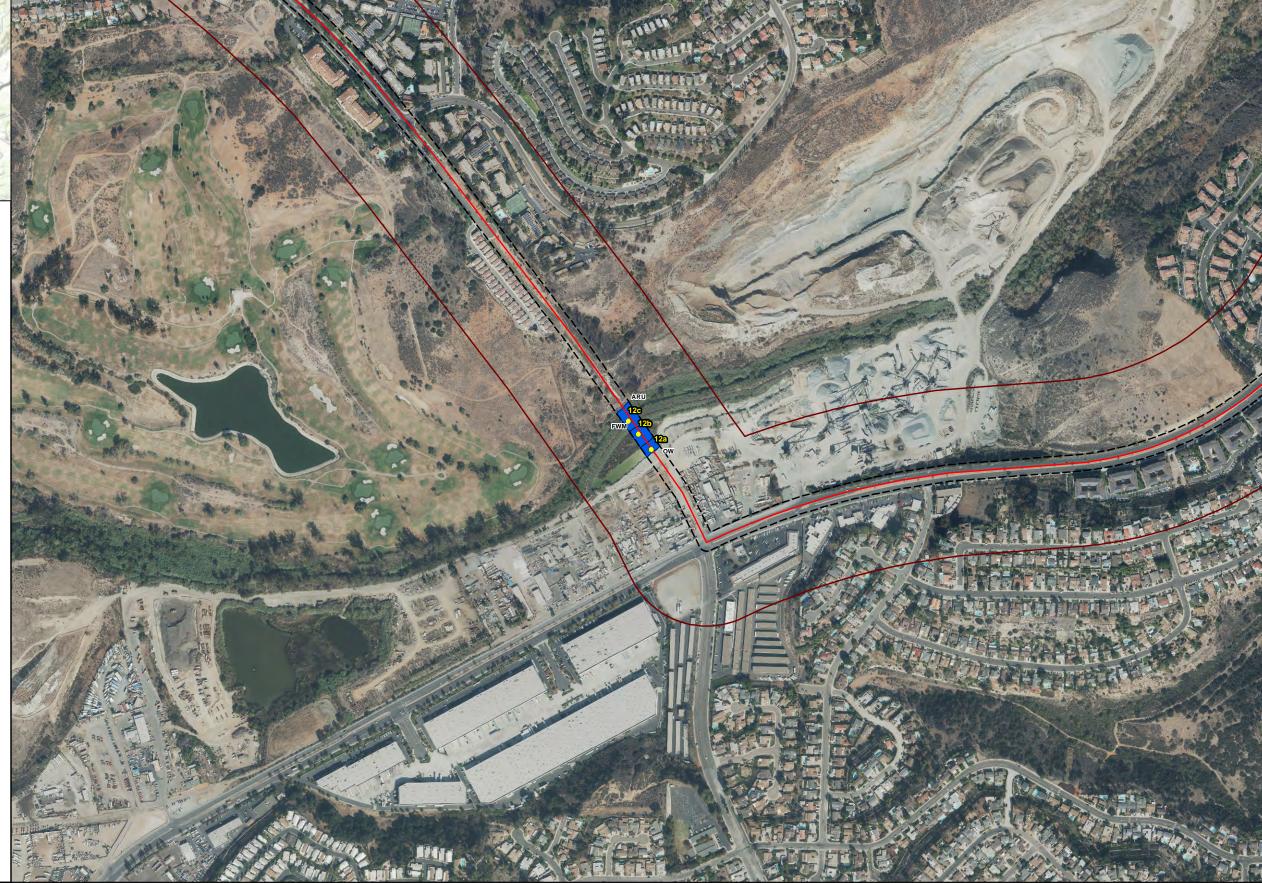
FWM, Coastal and Valley Freshwater Marsh

OW, Open Water

Data Stations

Waters of the U.S. (ACOE/RWQCB/CDFW)

Non-wetland Water - Perennial



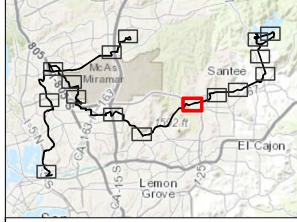


SOURCE: SANDAG, 2016; CA Coastal Commission

DUDEK

Special Aquatic Resources

FIGURE 61



LEGEND

San Vicente Pipeline

Jurisdictional Delineation Study Area

Project Study Area

Vegetation (Wetland Communities Only)

NVC, Non-Vegetated Channel or Floodway

SWRF, Southern Arroyo Willow Riparian Forest

SWS, Southern Willow Scrub

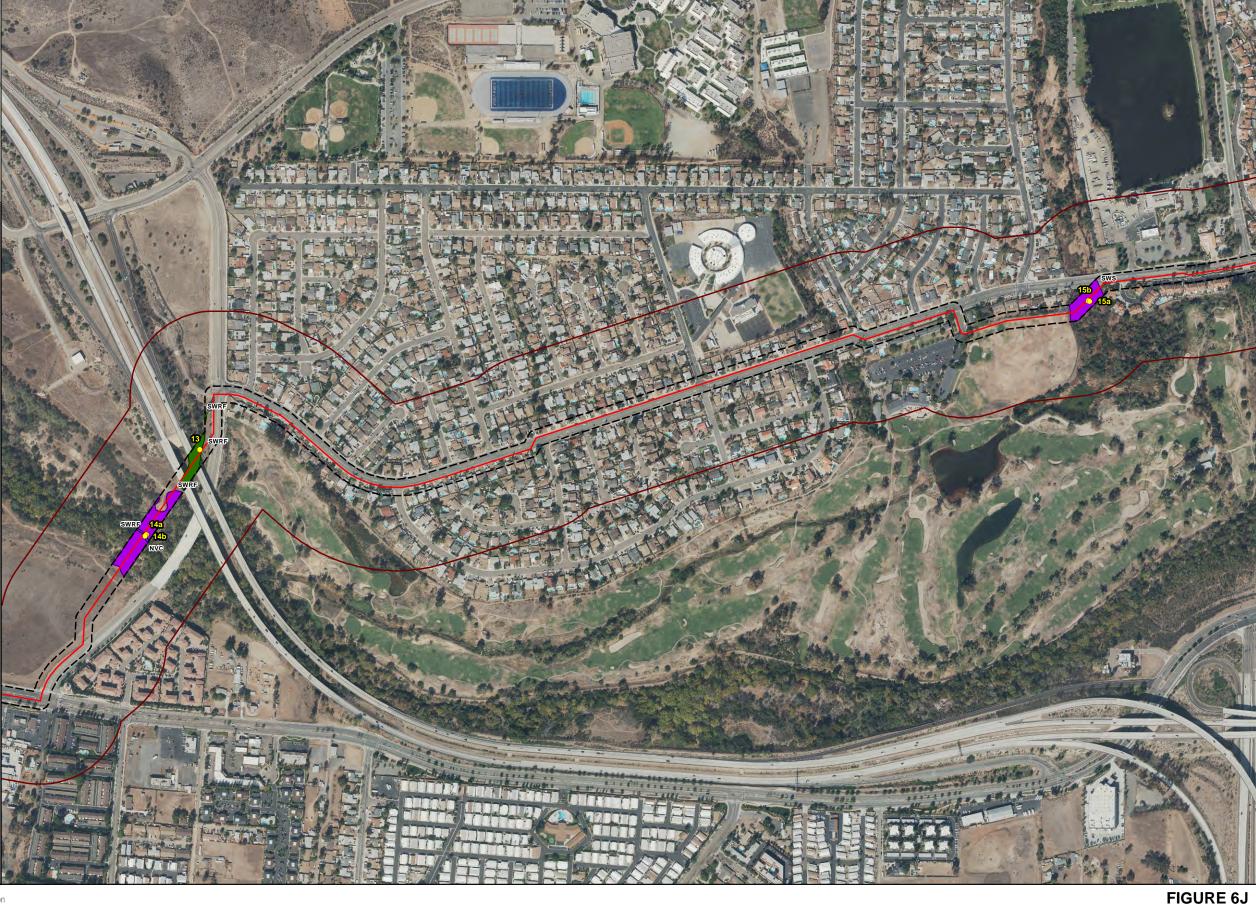
Data Stations

Waters of the U.S. (ACOE/RWQCB/CDFW)

Non-wetland Water - Perennial
Wetland or Riparian Area

Waters of the State (CDFW Only)

Wetland or Riparian Area

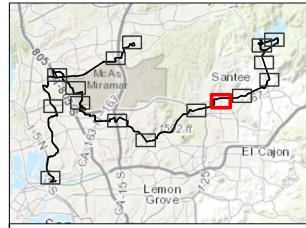




SOURCE: SANDAG, 2016; CA Coastal Commission

DUDEK

Special Aquatic Resources



LEGEND

— San Vicente Pipeline

Jurisdictional Delineation Study Area

Floodway

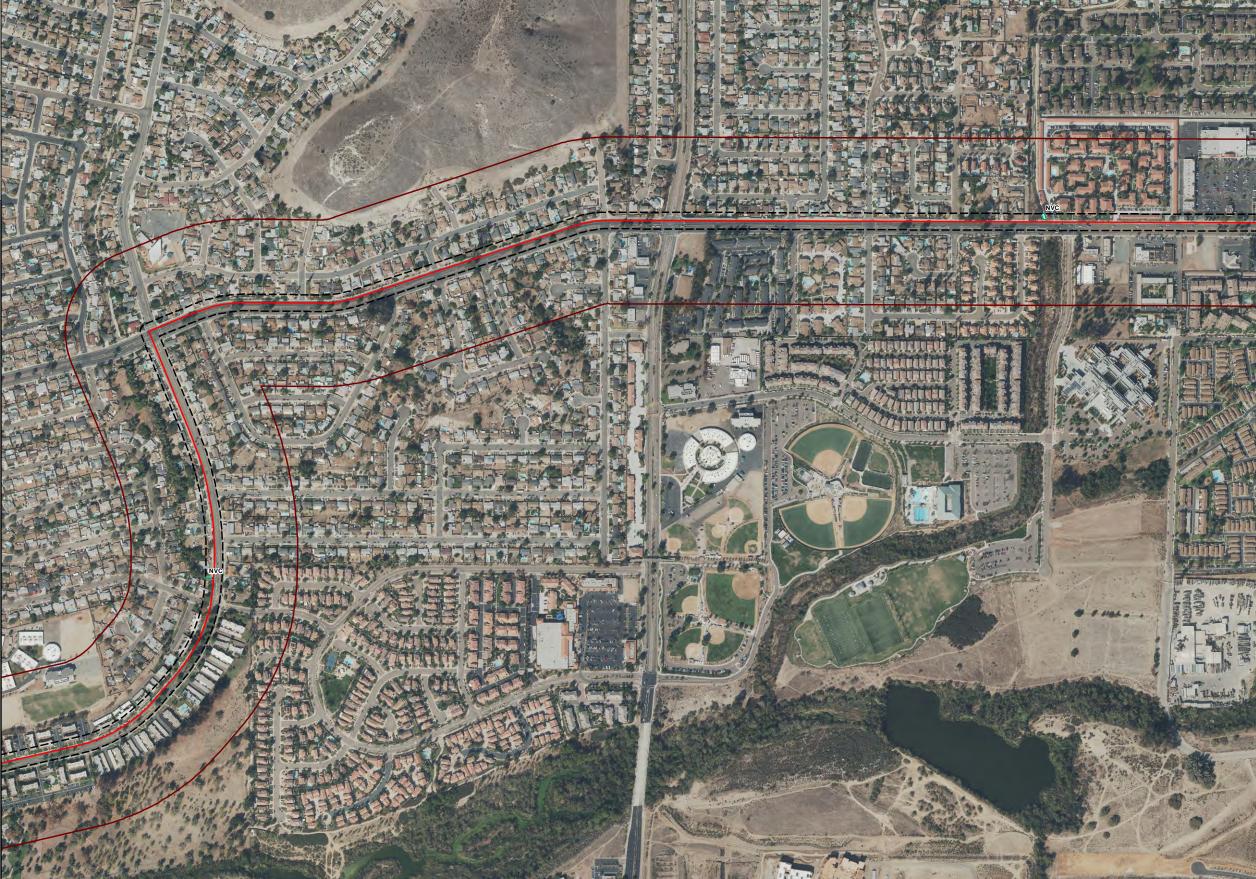
Project Study Area

Vegetation (Wetland Communities Only)

NVC, Non-Vegetated Channel or

Waters of the U.S. (ACOE/RWQCB/CDFW)

Non-wetland Water - Ephemeral



0 500 1,000 Feet

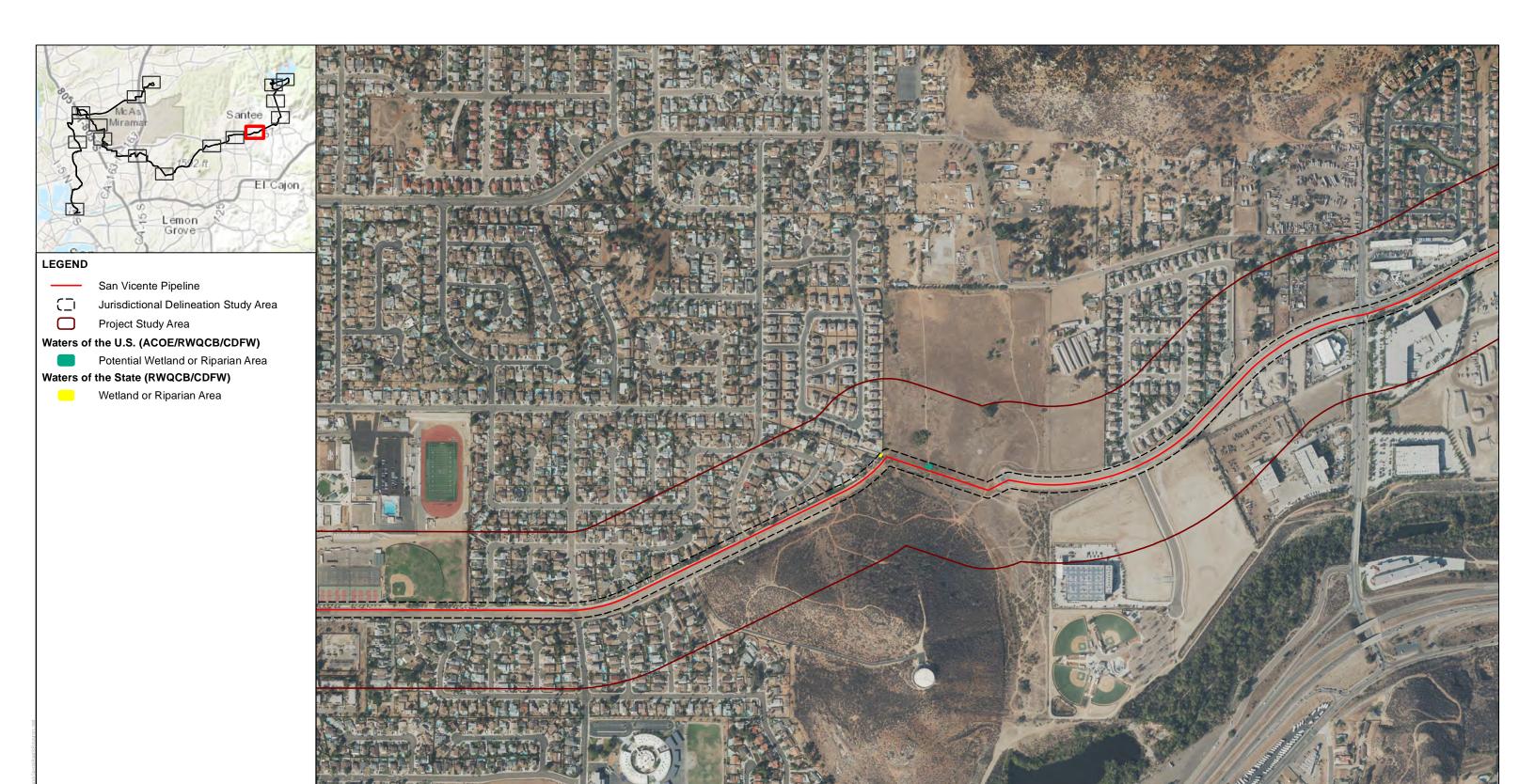
SOURCE: SANDAG, 2016; CA Coastal Commission

L

DUDEK

Special Aquatic Resources

FIGURE 6K



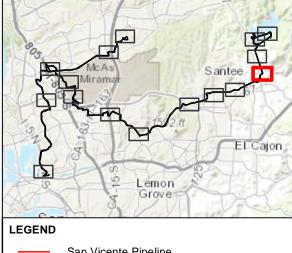
500 1,000 Fe

SOURCE: SANDAG, 2016; CA Coastal Commission

DUDEK

Special Aquatic Resources

FIGURE 6L



San Vicente Pipeline

Jurisdictional Delineation Study Area

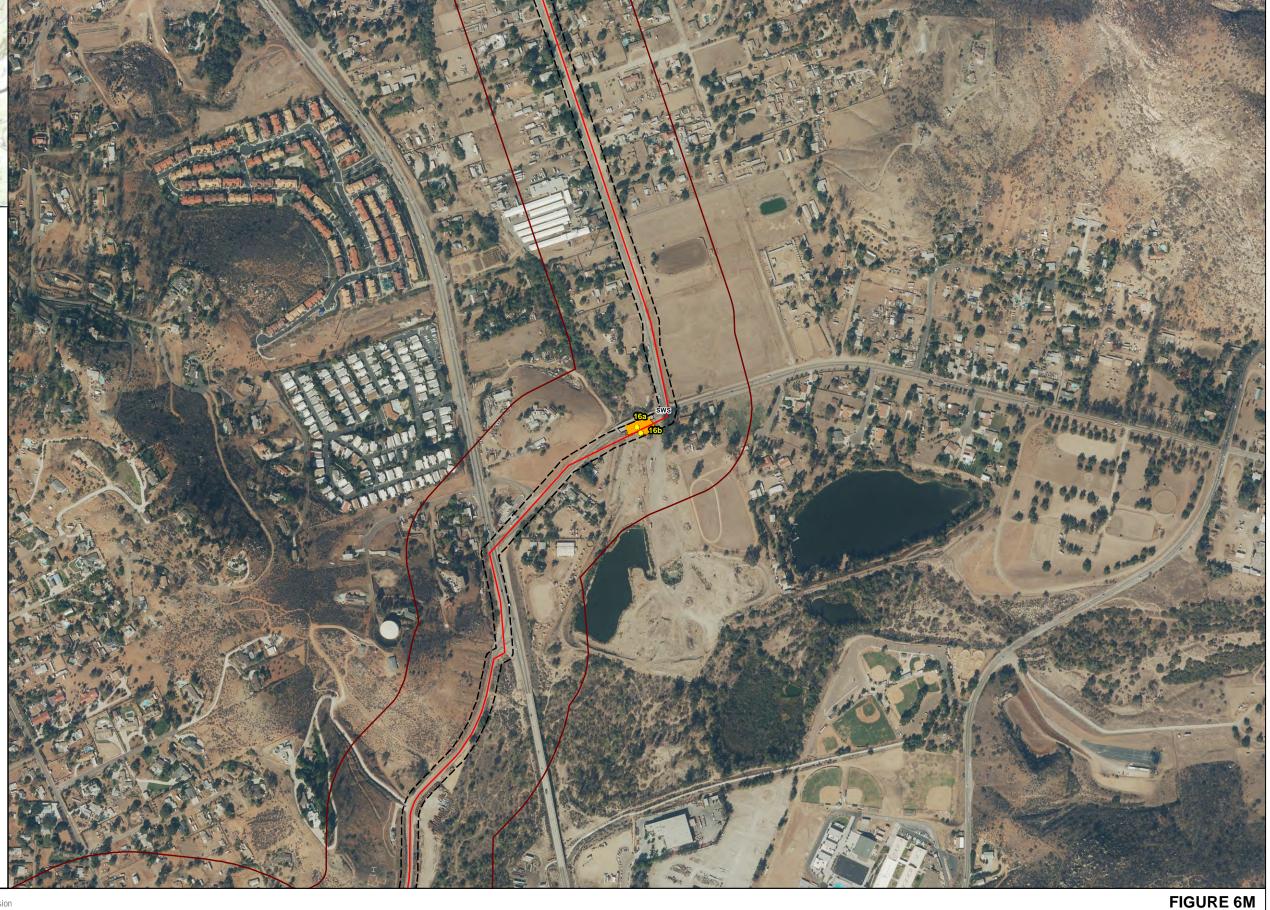
Project Study Area

Vegetation (Wetland Communities Only) SWS, Southern Willow Scrub

Data Stations

Waters of the U.S. and State (ACOE/RWQCB)/Riparian Habitat (CDFW)

Non-wetland Water - Ephemeral (ACOE/RWCQB)/Riparian Area (CDFW)

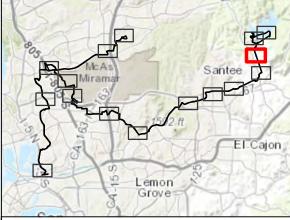




DUDEK

SOURCE: SANDAG, 2016; CA Coastal Commission

Special Aquatic Resources



LEGEND

San Vicente Pipeline

Jurisdictional Delineation Study Area
Project Study Area

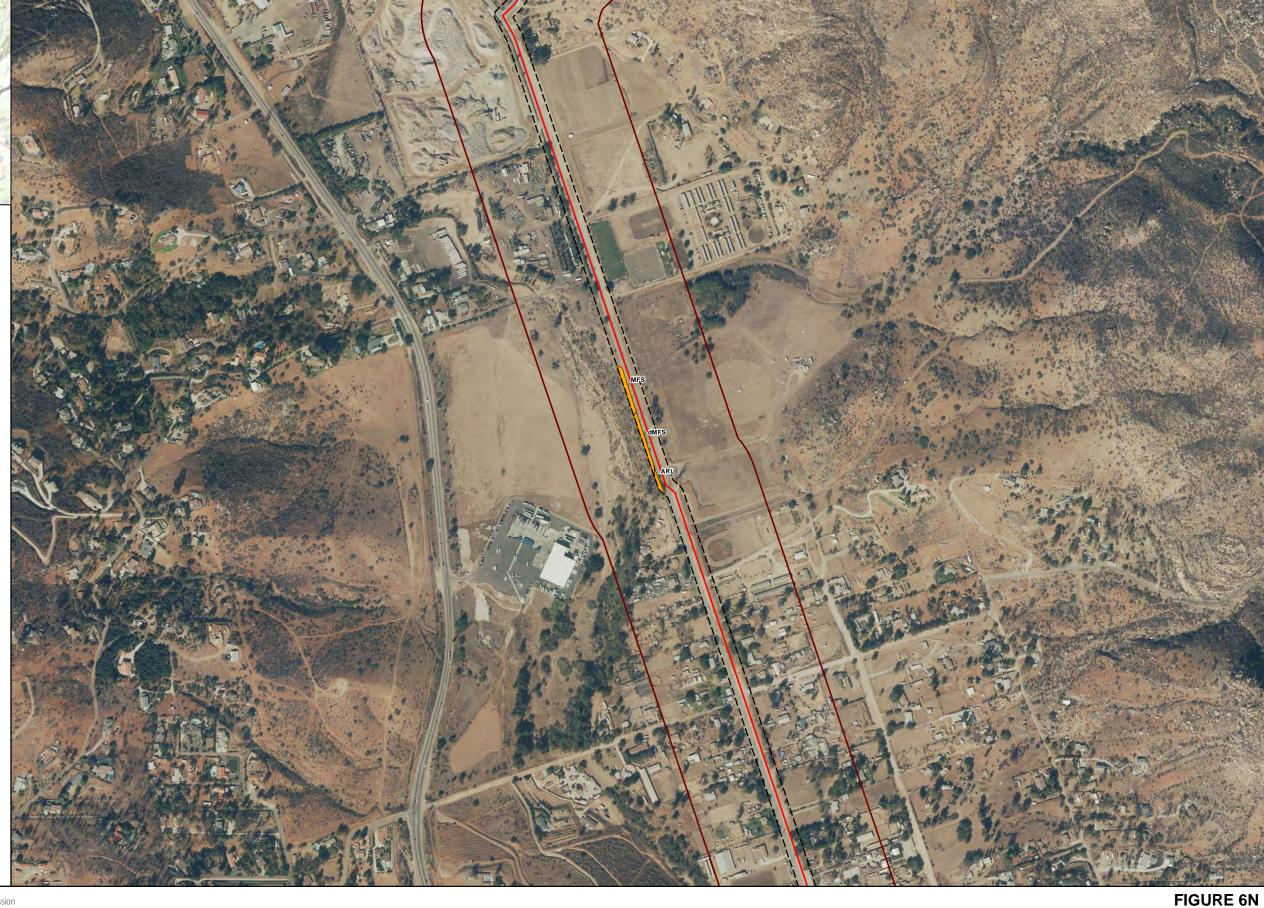
Vegetation (Wetland Communities Only)

ARU, Arundo-Dominated Riparian MFS, Mulefat Scrub

dMFS, disturbed Mulefat Scrub

Waters of the U.S. and State (ACOE/RWQCB)/Riparian Habitat (CDFW)

Non-wetland Water - Ephemeral (ACOE/RWCQB)/Riparian Area (CDFW)

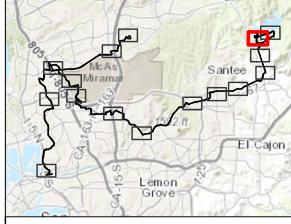




SOURCE: SANDAG, 2016; CA Coastal Commission

DUDEK

Special Aquatic Resources



LEGEND

 \Box

San Vicente Pipeline

San Vicente Pure Water Pipeline - Tunnel
Alternative

San Vicente Pure Water Pipeline - In-Reservoir Alternative

San Vicente Pure Water Pipeline - Marina Alternative

Jurisdictional Delineation Study Area

Project Study Area

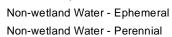
Vegetation (Wetland Communities Only)

NVC, Non-Vegetated Channel or Floodway

OW, Open Water

Data Stations

Waters of the U.S. (ACOE/RWQCB/CDFW)







DUDEK

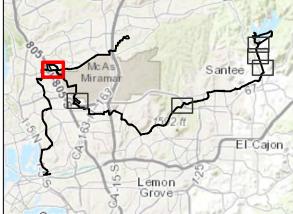
SOURCE: SANDAG, 2016; CA Coastal Commission

FIGURE 60Special Aquatic Resources



SOURCE: SANDAG, 2016; CA Coastal Commission

Special Aquatic Resources



LEGEND

North City Pipeline

San Vicente Pipeline

Repurposed Existing 36" Pipeline

North City Pipeline and San Vicente Pipeline

Moreno Wastewater Forcemain and Brine

Landfill Gas Pipeline

Vernal Pool Study Area

Project Study Area

Helix Vernal Pool Study Area

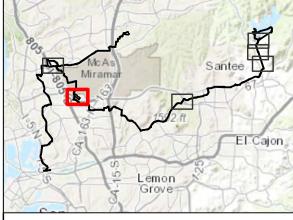
Potential for Vernal Pools



0 500 1,000 Fee

SOURCE: SANDAG, 2016; SanGIS 2016

FIGURE 7APotentially Suitable for Vernal Pools



LEGEND

San Vicente Pipeline

Repurposed Existing 36" Pipeline

CJ Vernal Pool Study Area

Project Study Area

Helix Vernal Pool Study Area

Potential for Vernal Pools

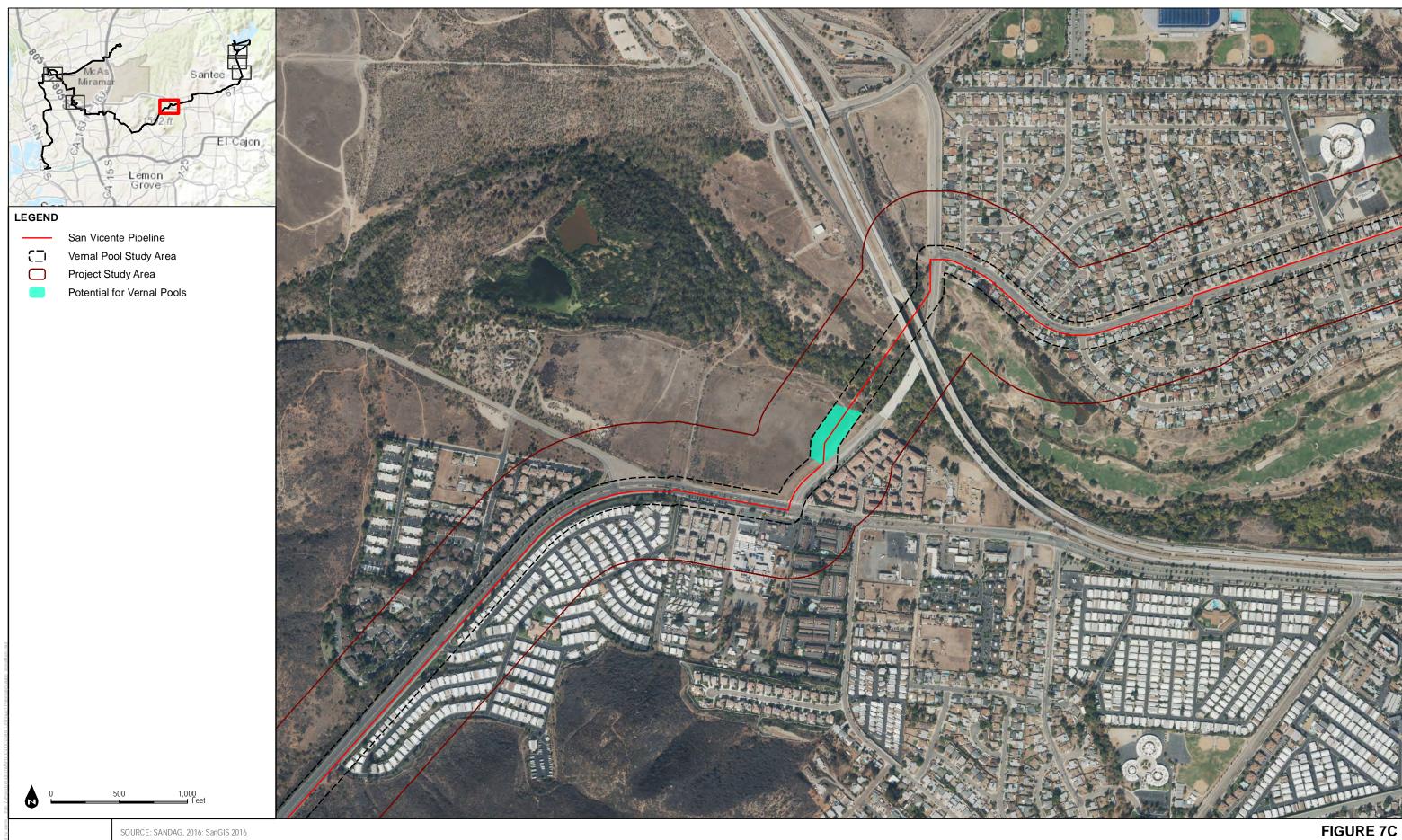




DUDEK

SOURCE: SANDAG, 2016; SanGIS 2016

FIGURE 7B



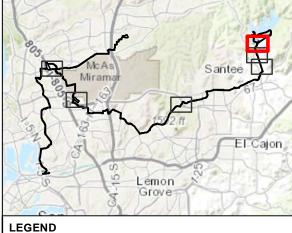
SOURCE: SANDAG, 2016; SanGIS 2016



SOURCE: SANDAG, 2016; SanGIS 2016



SOURCE: SANDAG, 2016; SanGIS 2016



San Vicente Pipeline

San Vicente Pure Water Pipeline - Tunnel

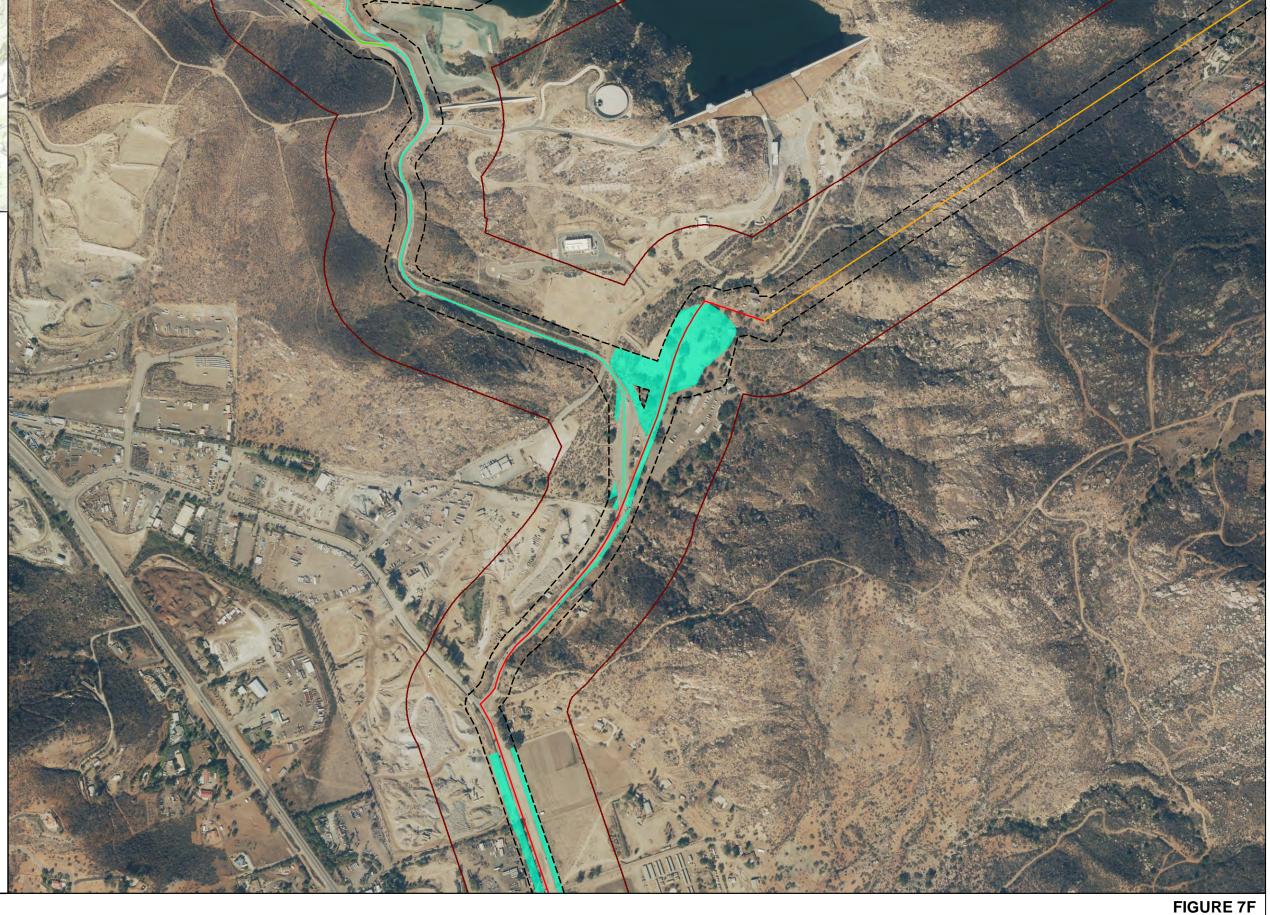
San Vicente Pure Water Pipeline - In-Reservoir Alternative

San Vicente Pure Water Pipeline - Marina

 \Box Vernal Pool Study Area

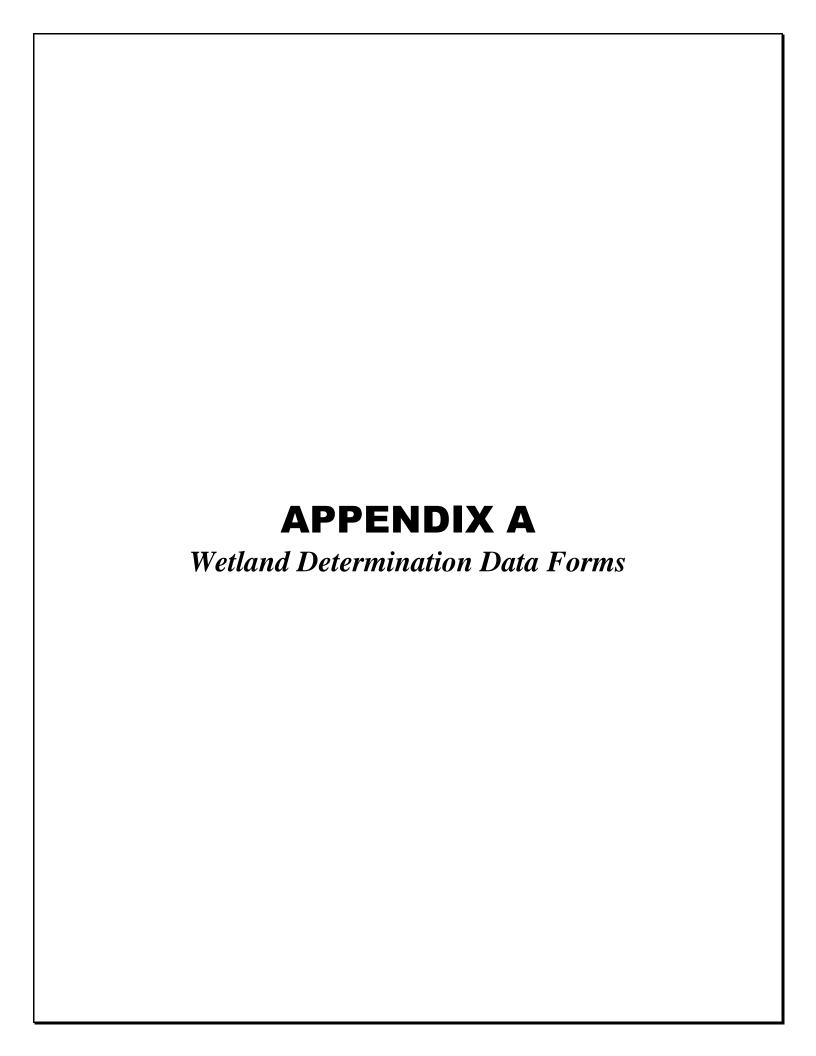
Project Study Area

Potential for Vernal Pools



DUDEK

SOURCE: SANDAG, 2016; SanGIS 2016



Project/Site: Pure Water Program		City/Coun	ty:San Dieg	go/San Diego	San	npling Date:)9/26/20	16
Applicant/Owner: City of San Diego				State:CA	Sam	npling Point:	la	
Investigator(s):Callie Ford, Danielle Mullen		Section, T	ownship, Ra	ange: 28, 15S, 3W		-		
Landform (hillslope, terrace, etc.):		Local reli	ef (concave,	convex, none):Non	e	Slo	ppe (%):	
Subregion (LRR):C - Mediterranean California	Lat:32.8	84		Long:-117.20		 Datu	ım:	
Soil Map Unit Name: Riverwash				NWI cl	assification	: Freshwate	er foreste	ed/shru
Are climatic / hydrologic conditions on the site typical for this t	time of ye	ear? Yes (• No ((If no, explai	n in Remar	rks.)		
Are Vegetation Soil or Hydrology sig	nificantly	disturbed	? Are	"Normal Circumstan	.ces" prese	nt? Yes) No	\circ
Are Vegetation Soil or Hydrology nat	turally pro	oblematic?	(If n	eeded, explain any a	answers in	Remarks.)		
SUMMARY OF FINDINGS - Attach site map sh							atures,	etc.
Hydrophytic Vegetation Present? Yes No	•							
Hydric Soil Present? Yes No	•	Is	the Sample	d Area				
Wetland Hydrology Present? Yes No			thin a Wetla		\circ	No 💿		
Remarks: The data station was taken outside of the lov	v flow c	hannel w	ithin the ac	tive floodplain.				
VEGETATION								
	bsolute	Dominan	t Indicator	Dominance Test	workshoe	1		
	% Cover	Species?		Number of Domin				
1.				That Are OBL, FA			\mathbf{C}	(A)
2				Total Number of I	Dominant			
3				Species Across A		-	1	(B)
4				Percent of Domin	ant Specie	S		
Sapling/Shrub Stratum Total Cover:	%			That Are OBL, FA	CW, or FA	vC: 0	.0 %	(A/B)
1.Baccharis sarothroides	5	No	FACU	Prevalence Inde	x workshe	et:		
2.Malosma laurina	2	No	Not Listed	Total % Cove	er of:	Multip	ly by:	_
3.				OBL species		x 1 =	0	
4.				FACW species		x 2 =	0	
5				FAC species	5	x 3 =	15	
Total Cover: Herb Stratum	7 %			FACU species	30	x 4 =	120	
1-Ambrosia psilostachya	25	Yes	FACU	UPL species	5	x 5 =	25	(D)
2-Foeniculum vulgare	$\frac{23}{2}$	No	Not Listed	_ Column Totals:	40	(A)	160	(B)
3. Heterotheca grandiflora	1	No	Not Listed	Prevalence	Index = B/	/A =	4.00	
4.Plantago lanceolata	5	No	FAC	Hydrophytic Veg	etation In	dicators:		
5.				Dominance T				
6.				Prevalence II				
7			_	Morphologica data in Re		ons' (Provide on a separate		ng
8.				Problematic I		•		.)
Total Cover: Woody Vine Stratum	33 %							
1.				¹ Indicators of hyd	lric soil and	d wetland hy	/drology n	nust
2.				be present.				
Total Cover:	%			Hydrophytic				
% Bare Ground in Herb Stratum % % Cover of	of Biotic C	Crust	%	Vegetation Present?	Yes (No (0	
Remarks:							·	
I .								- 1

SOIL Sampling Point: 1a Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) Texture³ (inches) Color (moist) Type¹ Loc² 0-410 YR 3/2 100 Sand 4-6 N/A 100 Cobbles ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix. 3Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) 1 cm Muck (A9) (LRR C) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) Redox Dark Surface (F6) 1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) ⁴Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) wetland hydrology must be present. Restrictive Layer (if present): Type:Bedrock Depth (inches):4 **Hvdric Soil Present?** No (Yes (Remarks: The sandy, cobbly soil sample had a restrictive layer of bedrock at 4 inches deep. **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (2 or more required) Primary Indicators (any one indicator is sufficient) Water Marks (B1) (Riverine) Surface Water (A1) Salt Crust (B11) Sediment Deposits (B2) (Riverine) X High Water Table (A2) Biotic Crust (B12) Drift Deposits (B3) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Thin Muck Surface (C7) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Shallow Aquitard (D3)

Water-Stained Leaves (B9) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes (No (Depth (inches): Water Table Present? Yes (No (Depth (inches): Saturation Present? Depth (inches): Yes (No (**Wetland Hydrology Present?** (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: The data station is adjacent to the low flow channel within the active floodplain. US Army Corps of Engineers Arid West - Version 11-1-2006

Project/Site: Pure Water Program	_ City/County:San Die	ego/San Diego	Sampling Date: 09	/26/2016
Applicant/Owner: City of San Diego		State:CA	Sampling Point:1b	
Investigator(s): Callie Ford, Danielle Mullen	Section, Township, I	Range: 28, 15S, 3W	_	
Landform (hillslope, terrace, etc.): Low flow channel	Local relief (concave	e, convex, none):Concave	Slope	e (%):
Subregion (LRR):C - Mediterranean California Lat:32	2.84	Long:-117.20	 Datum	:
Soil Map Unit Name: Riverwash		NWI classif	ication: Freshwater fo	orrested/shrub
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes No	(If no, explain in F	Remarks.)	
Are Vegetation Soil or Hydrology significant	tly disturbed? Ar	re "Normal Circumstances"	present? Yes	No 🔘
Are Vegetation Soil or Hydrology naturally p		needed, explain any answ		
SUMMARY OF FINDINGS - Attach site map showin				tures, etc.
Hydrophytic Vegetation Present? Yes No (
Hydric Soil Present? Yes No	Is the Sampl	led Area		
Wetland Hydrology Present? Yes No	within a Wet	land? Yes	No 💿	
Remarks: This data station was taken within the active flood	plain in a low flow c	channel. The recent drou	ight may have imp	acted this
area.				
VEGETATION				
Absolute	Dominant Indicator	Dominance Test wor	ksheet:	
Tree Stratum (Use scientific names.)		Number of Dominant S		
1		That Are OBL, FACW	, or FAC: 0	(A)
2		Total Number of Domi	nant	
3		Species Across All Str	rata: 0	(B)
4		— Percent of Dominant S		
Total Cover: Sapling/Shrub Stratum	%	That Are OBL, FACW,	, or FAC: 0	% (A/B)
1.		Prevalence Index wo	rksheet:	
2.		Total % Cover of:	Multiply	by:
3.		OBL species	x 1 =	0
4		FACW species	x 2 =	0
5		FAC species FACU species	x 3 =	0
Total Cover: 9	%	UPL species	x 4 = x 5 =	0
1.		Column Totals:	(A)	0 (B)
2.		Column rotals.	(A)	0 (b)
3.		Prevalence Inde		
4.		Hydrophytic Vegetat		
5.		Dominance Test i		
6.		Prevalence Index	aptations¹ (Provide s	upporting
7			ks or on a separate s	
Total Cover:		— Problematic Hydro	ophytic Vegetation ¹ (I	Explain)
Woody Vine Stratum	%			
1		¹ Indicators of hydric s be present.	oil and wetland hydr	rology must
Z. Total Covers		Hydrophytic		
	%	Vegetation	_	
% Bare Ground in Herb Stratum % Cover of Biotic			es No	
Remarks: This data station is within the non-vegetated, low	flow channel in ope	en water.		

SOIL Sampling Point: 1b Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features (inches) Color (moist) Color (moist) Type¹ Loc² Texture³ Sandy Cobbles Pebbles ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix. 3Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) 1 cm Muck (A9) (LRR C) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) Redox Dark Surface (F6) 1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) ⁴Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) wetland hydrology must be present. Restrictive Layer (if present): Type: **Hydric Soil Present?** Depth (inches): Yes (No (Remarks: The soil is assumed to be hydric based on saturation. **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (2 or more required) X Water Marks (B1) (Riverine) Primary Indicators (any one indicator is sufficient) Surface Water (A1) Salt Crust (B11) Sediment Deposits (B2) (Riverine) High Water Table (A2) Biotic Crust (B12) Drift Deposits (B3) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Water Marks (B1) (Nonriverine)

Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Thin Muck Surface (C7) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Shallow Aquitard (D3) Water-Stained Leaves (B9) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes (No (Depth (inches): 24 Water Table Present? Yes (No (Depth (inches): Saturation Present? Depth (inches): Yes (No (Wetland Hydrology Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: US Army Corps of Engineers

Project/Site: Pure Water Program			City/Cou	nty:San Dieg	go/San Diego	S	ampling Date:	09/26/20	16
Applicant/Owner: City of San Diego		State:CA Sampling Point:1c					1c		
Investigator(s): Callie Ford, Daniell	e Mullen		Section,	Township, Ra	ange: 28, 15S, 3W	<u> </u>			
Landform (hillslope, terrace, etc.): Bai	nk				convex, none):Nor		SI	ope (%):	
Subregion (LRR):C - Mediterranear		Lat:32.5	-	(Long:-117.20	10		tum:	
Soil Map Unit Name: Riverwash	Cumoma		01			lassificati	on: Freshwate		
	the electric feet for the	·	0 - \/	<u> </u>				1 Torrestet	1/ SIII UU
Are climatic / hydrologic conditions on					· · · ·		, , , , , , , , , , , , , , , , , , ,		
		significantly			"Normal Circumstar	•	-) No	0
Are Vegetation Soil or	Hydrology	naturally pr	oblematic	:? (If n	eeded, explain any	answers i	n Remarks.)		
SUMMARY OF FINDINGS - A	Attach site map	showing	j sampli	ing point l	ocations, trans	ects, ir	nportant fe	eatures,	etc.
	V C .								
Hydrophytic Vegetation Present? Hydric Soil Present?	_	10 (0) 10 (())		the Commis	-l A				
Wetland Hydrology Present?	_	40 (P)		the Sample			No (•)		
Remarks: This data station was ta	_			vithin a Wetla		_		may have	
impacted this area.	Ken within the acti	ve moodp	iaiii aaja	cent to the r	ow now channer.	THE TEE	ont drought i	may mave	,
impacted this area.									
VEGETATION									
VEGETATION		Absolute	Domino	nt Indicator	Dominance Tes	t worksh	oot:		
Tree Stratum (Use scientific name	s.)	% Cover	Species		Number of Domin				
1.Salix gooddingii		30	Yes	FACW	That Are OBL, F			3	(A)
2.Salix lasiolepis		15	Yes	FACW	Total Number of	Dominon			
3. Platanus racemosa		25	Yes	FAC	Species Across A			3	(B)
4.			-		Percent of Domir	ont Snoo	nio o		
	Total Cove	er: 70 %			That Are OBL, F			00.0 %	(A/B)
Sapling/Shrub Stratum		_						0.0 //	
1. Juncus acutus			No	FACW	Prevalence Inde			alı bır	
2-Baccharis salicifolia		5	No	FAC	_	ei oi.	x 1 =	oly by:	
3		_			OBL species FACW species	50	x 1 = x 2 =	100	
4. 5.					FAC species	30	x 3 =	90	
J	Total Cove	er: 10 %			FACU species	30	x 4 =	0	
Herb Stratum	Total Cove	71. 10 70			UPL species		x 5 =	0	
1.Pennisetum spp.		2	No		Column Totals:	80	(A)	190	(B)
2.					_ Coldiniii Totals.	80	(八)	190	(5)
3.					Prevalence	Index =	B/A =	2.38	
4.					Hydrophytic Ve	_			
5.					→ Dominance				
6.					× Prevalence I				
7							tions¹ (Provid r on a separat		ng
8							tic Vegetation		1)
Woody Vine Stratum	Total Cove	er: 2 %				,	, are vegetane.	(=/\p.c)	,
1.					¹ Indicators of hydronic	dric soil a	and wetland h	vdrology r	must
2.					be present.			,	
	Total Cove	er: %			Hydrophytic				
					Vegetation				
% Bare Ground in Herb Stratum	% % Cove	er of Biotic (Crust	<u></u>	Present?	Yes (No ()	
Remarks:									

SOIL Sampling Point: 1c

Depth	Matrix		eded to document the indicator o Redox Features			•
(inches)	Color (moist)	% Co	lor (moist) % Type ¹	Loc ²	Texture ³	Remarks
0-10	10 YR 2/2	50		5	Sandy	
0-10	N/A	50		(Cobble	
	· ·					
	-					
1 0 0			20 00 00 00			
	Concentration, D=Dep		ced Matrix. ² Location: PL=Pore n, Sandy Clay Loam, Sandy Loam,	-		
			less otherwise noted.)	Clay Luan		plematic Hydric Soils:
Histoso	٠		Sandy Redox (S5)		1 cm Muck (A	-
Histic E	Epipedon (A2)		Stripped Matrix (S6)		2 cm Muck (A	10) (LRR B)
	Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Ver	
1 1 -	gen Sulfide (A4)	<i>z</i> ,	Loamy Gleyed Matrix (F2)		Red Parent M	` '
	ed Layers (A5) (LRR (luck (A9) (LRR D)) -	Depleted Matrix (F3) Redox Dark Surface (F6)		Other (Explain	n in Remarks)
	ed Below Dark Surface	e (A11)	Depleted Dark Surface (F7)			
	Dark Surface (A12)		Redox Depressions (F8)			
	Mucky Mineral (S1)		Vernal Pools (F9)		•	ophytic vegetation and
<u> </u>	Gleyed Matrix (S4)				wetland hydrol	ogy must be present.
	Layer (if present):					
Type:Co	nches):0-10				Hydric Soil Prese	nt? Yes No 💿
Remarks:					Tryunc 3011 Fese	110 0
IYDROLO						
	ydrology Indicators:					ndicators (2 or more required)
	licators (any one indic	ator is sufficient)	7		— <u></u>	arks (B1) (Riverine)
	e Water (A1)		Salt Crust (B11)		· ·	nt Deposits (B2) (Riverine)
	/ater Table (A2)	Ĺ	Biotic Crust (B12)			posits (B3) (Riverine) e Patterns (B10)
\blacksquare	tion (A3) Marks (B1) (Nonriver i	ine) [Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)			son Water Table (C2)
	ent Deposits (B2) (No	, L	Oxidized Rhizospheres along L	ivina Root		ck Surface (C7)
	eposits (B3) (Nonrive		Presence of Reduced Iron (C4)	-	· · · · ·	Burrows (C8)
	e Soil Cracks (B6)	, [Recent Iron Reduction in Plower	ed Soils (C	6) Saturation	on Visible on Aerial Imagery (C9)
Inunda	tion Visible on Aerial I	magery (B7)	Other (Explain in Remarks)		Shallow	Aquitard (D3)
Illullua		-			FAC-Ne	utral Test (D5)
	Stained Leaves (B9)					
Water-	rvations:	es No 💿	Depth (inches):			
Water-	rvations: ater Present? Y	es No (•				
Field Obse Surface Wa Water Table Saturation I	ervations: ater Present? Present? Y Present? Y		Depth (inches):	Wetla	nd Hydrology Press	ant? Yes (a) No (
Field Obse Surface Wa Water Table Saturation I (includes ca	ater Present? Y e Present? Y Present? Y apillary fringe)	es No No No No No	Depth (inches):		nd Hydrology Preso	ent? Yes No
Water-Field Obse Surface Water Table Saturation I (includes ca	ater Present? Y e Present? Y Present? Y apillary fringe)	es No No No No No	Depth (inches):			ent? Yes No
Field Obse Surface Wa Water Table Saturation I (includes ca Describe Ro	ervations: ater Present? Y e Present? Y Present? Y apillary fringe) ecorded Data (stream	es No es No es No es No es No es No es Ronitorir	Depth (inches): Depth (inches): g well, aerial photos, previous insp	ections), if	f available:	ent? Yes No
Water-Field Obse Surface Water Table Saturation I (includes ca Describe Ro	ervations: ater Present? Y e Present? Y Present? Y apillary fringe) ecorded Data (stream	es No es No es No es No es No es No es Ronitorir	Depth (inches):	ections), if	f available:	ent? Yes No
Water-Field Obse Surface Wa Water Table Saturation I (includes ca Describe Re	ervations: ater Present? Y e Present? Y Present? Y apillary fringe) ecorded Data (stream	es No es No es No es No es No es No es Ronitorir	Depth (inches): Depth (inches): g well, aerial photos, previous insp	ections), if	f available:	ent? Yes No
Water-Field Obse Surface Wa Water Table Saturation I (includes ca Describe Re	ervations: ater Present? Y e Present? Y Present? Y apillary fringe) ecorded Data (stream	es No es No es No es No es No es No es Ronitorir	Depth (inches): Depth (inches): g well, aerial photos, previous insp	ections), if	f available:	ent? Yes No
Water-Field Obse Surface Wa Water Table Saturation I (includes ca Describe Re	ervations: ater Present? Y e Present? Y Present? Y apillary fringe) ecorded Data (stream	es No es No es No es No es No es No es Ronitorir	Depth (inches): Depth (inches): g well, aerial photos, previous insp	ections), if	f available:	ent? Yes No

Project/Site: Pure Water Program			City/Cour	nty:San Dieg	go/San Diego	Sam	npling Date:)9/26/20	16
Applicant/Owner: City of San Diego					State:CA	Sam	npling Point:1	d	
Investigator(s):Callie Ford, Danielle	Mullen		Section,	Township, Ra	ange: 28, 15S, 3W		_		
Landform (hillslope, terrace, etc.):			Local rel	ief (concave,	convex, none): None	;	Slc	pe (%):	
Subregion (LRR):C - Mediterranean C	 California	Lat:32.8	34		Long:-117.19		 Datu	ım:	
Soil Map Unit Name: Salinas clay loar					_	ssification	: None		
Are climatic / hydrologic conditions on th		time of ve	ear? Yes	O No ((If no, explain	ı in Remar	ks.)		
			disturbed		"Normal Circumstand		,	No	\circ
		,	oblematic		eeded, explain any ar				\sim
• 🗀 .								_4	-4-
SUMMARY OF FINDINGS - At	tach site map si	nowing	sampii	ng point i	ocations, transe	ects, imp	ortant re	atures,	etc.
Hydrophytic Vegetation Present?	Yes No	•							
Hydric Soil Present?	Yes No		Is	the Sample	d Area				
Wetland Hydrology Present?	Yes No	•	wi	ithin a Wetla	nd? Yes	0	No 💿		
Remarks:									
VEGETATION									
		Absolute	Dominar	nt Indicator	Dominance Test	workshee	ıt:		
<u>Tree Stratum</u> (Use scientific names.)	<u>-</u>	% Cover	Species	? Status	Number of Domina	ant Specie	S		
1. Quercus agrifolia		60	Yes	Not Listed	That Are OBL, FA	CW, or FA	.C: 1	L	(A)
2.Platanus racemosa		60	Yes	FAC	Total Number of D	ominant			
3					Species Across All	l Strata:	3	3	(B)
4					Percent of Domina				
Sapling/Shrub Stratum	Total Cover:	120%			That Are OBL, FA	CW, or FA	C: 33	3.3 %	(A/B)
1.Toxicodendron diversilobum		70	Yes	FACU	Prevalence Index	workshe	et:		
2.					Total % Cover	r of:	Multipl	ly by:	_
3.					OBL species		x 1 =	0	
4.					FACW species		x 2 =	0	
5.					FAC species	60	x 3 =	180	
Harl Otratura	Total Cover:	70 %			FACU species	70	x 4 =	280	
Herb Stratum					UPL species	60	x 5 =	300	
1. 2.					Column Totals:	190	(A)	760	(B)
3.				_	Prevalence I	ndex = B/	'A =	4.00	
4.				_	Hydrophytic Vege	etation Inc	dicators:		
5.			-	_	Dominance Te	est is >50%	6		
6.					Prevalence In	dex is ≤3.0) ¹		
7.					Morphological				ng
8.			-		data in Rer		n a separate	,	
	Total Cover:	%			- Problematic H	iyaropriyud	vegetation	(Explain	1)
Woody Vine Stratum					¹ Indicators of hydr	ic soil and	d wetland h	rdrology i	must
1					be present.	ic son and	wedana ny	drology i	iiust
2	Total Cover:	%		<u> </u>	Hydrophytic				
					Vegetation				
% Bare Ground in Herb Stratum	% Cover 0			<u>%</u>	Present?	Yes 🔘	No 🧿	9	
Remarks: The jurisdiction is CDF	W only from the to	e of the	slope to	the sidewal	k along Genesse A	ve.			

SOIL Sampling Point: 1d Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Loc² Texture³ (inches) Color (moist) Color (moist) Type¹ ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix. 3Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) 1 cm Muck (A9) (LRR C) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) Redox Dark Surface (F6) 1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) ⁴Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) wetland hydrology must be present. Restrictive Layer (if present): Type: **Hydric Soil Present?** No (Depth (inches): Yes (Remarks: No soil sample was taken due to very dense poison oak. **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (2 or more required) Primary Indicators (any one indicator is sufficient) Water Marks (B1) (Riverine) Surface Water (A1) Salt Crust (B11) Sediment Deposits (B2) (Riverine) High Water Table (A2) Biotic Crust (B12) Drift Deposits (B3) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Thin Muck Surface (C7) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Shallow Aquitard (D3) Water-Stained Leaves (B9) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes (No (Depth (inches): Water Table Present? Yes (No (Depth (inches): Saturation Present? Depth (inches): Yes (No (Wetland Hydrology Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: This data station is located on a slope above the ACOE active floodplain, and there is no evidence of a bed and bank.

Project/Site: Pure Water Program		City/Count	y:San Dieg	o/San Diego	Samp	oling Date:09	9/26/20	16
Applicant/Owner: City of San Diego				State:CA	 Samp	oling Point:2		
Investigator(s):Callie Ford, Danielle Mullen		Section, T	ownship, Ra	nge: 09, 15S, 3W		_		
Landform (hillslope, terrace, etc.):		Local relie	ef (concave,	convex, none):None	 е	Slop	e (%):0	
Subregion (LRR):C - Mediterranean California	Lat:32.8	87		Long:-117.19		 Datun	n:	
Soil Map Unit Name: Altamont clay/Redding cobbly loa	 m			NWI cla	assification: []]	—— Freshwater e	mergent	wetland
Are climatic / hydrologic conditions on the site typical for this	time of ye	ear? Yes (No ((If no, explain	n in Remark	s.)		
Are Vegetation Soil or Hydrology significant	gnificantly	disturbed?	Are '	'Normal Circumstan	ces" present	t? Yes 💿	No	0
Are Vegetation Soil or Hydrology na	aturally pr	oblematic?	(If ne	eeded, explain any a	nswers in R	emarks.)		
SUMMARY OF FINDINGS - Attach site map s	howing	samplin	ng point lo	ocations, transe	ects, impo	ortant fea	tures,	etc.
Hydrophytic Vegetation Present? Yes No								
	•	ls t	he Sampled	l Area				
	•	wit	hin a Wetlaı	nd? Yes	O N	lo 💿		
Remarks:								
VEGETATION								
	Absolute	Dominant	Indicator	Dominance Test	worksheet:			
	% Cover	Species?		Number of Domin				
1.Salix lasiolepis	70	Yes	FACW	That Are OBL, FA		2		(A)
2				Total Number of D	Oominant			
3				Species Across A	Il Strata:	2		(B)
4				Percent of Domina	ant Species			
Total Cover: Sapling/Shrub Stratum	70 %			That Are OBL, FA	CW, or FAC	100.	0 %	(A/B)
1.Baccharis salicifolia	5	Yes	FAC	Prevalence Index	k worksheef	t:		
2.				Total % Cove	r of:	Multiply	by:	
3.				OBL species		x 1 =	0	
4.				FACW species	70	x 2 =	140	
5.				FAC species	5	x 3 =	15	
Total Cover:	5 %			FACU species	20	x 4 =	80	
Herb Stratum	20	NT		UPL species		x 5 =	0	
1.Helminthotheca echioides (dead)		No	FACU	Column Totals:	95	(A)	235	(B)
3.		-		Prevalence	Index = B/A	. =	2.47	
4.				Hydrophytic Veg	etation Indi	cators:		
5.				Dominance T	est is >50%			
6.				× Prevalence Ir	ndex is ≤3.0 ¹			
7.				Morphologica				ng
8.						a separate s	,	,
Total Cover:	20 %		-	Problematic F	1yaropnytic	vegetation (,Expiain	
Woody Vine Stratum				¹ Indicators of hyd	ric soil and	wotland hyd	Irology	muet
1				be present.	nic son and	welland nyu	Tology I	iiusi
2Total Cover:	%			Hydrophytic				
				Vegetation				
	of Biotic C	Crust	<u>%</u>	Present?	Yes	No 🔘		
Remarks:							-	

SOIL Sampling Point: 2 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) Color (moist) Texture³ (inches) Type¹ Loc² Remarks 0-210 YR 3/2 100 Loam 2-20 10 YR 3/2 5 Loam 95 2 - 202.5 YR 5/4 Silty clay loam ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix. 3Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) 1 cm Muck (A9) (LRR C) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) Redox Dark Surface (F6) 1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) ⁴Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) wetland hydrology must be present. Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** No (Yes (Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (2 or more required) Primary Indicators (any one indicator is sufficient) Water Marks (B1) (Riverine) Surface Water (A1) Salt Crust (B11) Sediment Deposits (B2) (Riverine) High Water Table (A2) Biotic Crust (B12) Drift Deposits (B3) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Thin Muck Surface (C7) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Shallow Aquitard (D3) Water-Stained Leaves (B9) FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes (No (Depth (inches): Water Table Present? Yes (No (Depth (inches): Saturation Present? Depth (inches): Yes (No (Wetland Hydrology Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: There is no bed and bank present. US Army Corps of Engineers Arid West - Version 11-1-2006

Project/Site: Pure Water Program		City/Count	y:San Diego	o/San Diego	San	npling Date:()	9/27/20	16
Applicant/Owner: City of San Diego				State:CA	San	npling Point:3	a	
Investigator(s):Callie Ford, Janice Wondolleck		Section, T	ownship, Rar	nge: 32, 14S, 2	W	_		
Landform (hillslope, terrace, etc.):		Local relie	ef (concave, o	convex, none):N	one	Slop	pe (%):	
Subregion (LRR):C - Mediterranean California	Lat:32.9	91		Long:-117.10		Datu	m:	
Soil Map Unit Name: Redding-urban land complex				NWI	classification	: Freshwater e	emergent	wetlan
Are climatic / hydrologic conditions on the site typical for this	time of ye	ear? Yes	No ((If no, exp	olain in Rema	rks.)		
		disturbed?		Normal Circums	tances" prese	nt? Yes	No	\circ
		oblematic?		eded, explain an	•			
SUMMARY OF FINDINGS - Attach site map s							atures,	etc.
Hydrophytic Vegetation Present? Yes No								
	Ö	ls t	he Sampled	Area				
, 0,			hin a Wetlan		es 💿	No 🔘		
Remarks: This data station was taken within freshwater	er marsh	adjacent	to the San V	Vicente Reserv	oir.			
VEGETATION								
	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Te				
1.	70 0010.			Number of Dor That Are OBL,				(A)
2.						1		()
3.				Total Number of Species Across		1		(B)
4.						•		` ,
Total Cover:	%			Percent of Don That Are OBL,		_	0.0 %	(A/B)
Sapling/Shrub Stratum	-	NT.		Prevalence In	dov worksho			
1.Baccharis salicifolia	5	No	FAC	Total % Co		et: Multiply	v hv:	
2-Baccharis sarothroides 3-Salvia mellifera	10	No No	FACU Not Listed	OBL species	100	x 1 =	100	
4.	1	110	- Not Listed	FACW species		x 2 =	0	
5.				FAC species	5	x 3 =	15	
Total Cover:	16 %			FACU species	10	x 4 =	40	
Herb Stratum				UPL species	1	x 5 =	5	
1.Schoenoplectus acutus	100	Yes	OBL	Column Totals	116	(A)	160	(B)
2				Drovolon	ce Index = B	/Λ	1.20	
3.				Hydrophytic V			1.38	
5.					e Test is >509			
6.					e Index is ≤3.			
7.					ical Adaptatio		supporti	ng
8.					Remarks or o		,	
Total Cover:	100%			Problemat	ic Hydrophytic	c Vegetation ¹	(Explain)
Woody Vine Stratum	100%			1				
1				¹ Indicators of h be present.	nydric soil an	d wetland hy	drology r	nust
2				· .				
Total Cover:	%			Hydrophytic Vegetation				
% Bare Ground in Herb Stratum % Cover	of Biotic C	Crust	%	Present?	Yes 💿	No C)	
Remarks:				l				

SOIL

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

Profile Des	scription: (Describe	to the depth nee	eded to docum	ent the indicator	or confirm	the absence of	indicators.)	
Depth	Matrix Color (moist)		Redox lor (moist)	Features % Type ¹	Loc ²	Texture ³	Rema	rko
(inches)			ioi (moist)	% Type ¹			_ Keilla	IIKS
0-3	7.5 YR 2.5/1					Loam	_	
							_	
							_	
	_							
	<u> </u>							
4		. ———. ——						
	Concentration, D=Dep			Location: PL=Pore	-			ny Cand Cand
	Indicators: (Applicable				, Clay Loan		m, Silt Loam, Silt, Loar Problematic Hydric So	<u> </u>
Histoso		ie to ali ERRS, un	Sandy Redox	•			ck (A9) (LRR C)	iis.
	Epipedon (A2)	<u> </u>	Stripped Mat	` '			ck (A10) (LRR B)	
	Histic (A3)			y Mineral (F1)			Vertic (F18)	
Hydrog	gen Sulfide (A4)		Loamy Gleye	ed Matrix (F2)		Red Pare	ent Material (TF2)	
Stratifie	ed Layers (A5) (LRR (C)	Depleted Ma	trix (F3)		Other (Ex	xplain in Remarks)	
	fluck (A9) (LRR D)		Redox Dark	` ,				
	ed Below Dark Surface	e (A11)		rk Surface (F7)				
	Dark Surface (A12) Mucky Mineral (S1)	L	Redox Depre			⁴ Indicators of	hydrophytic vegetation	and
	Gleyed Matrix (S4)	L	vernai Poois	(F9)			drology must be prese	
	Layer (if present):					Wottanding	, arology made bo proce	
	oots, gravel							
Depth (ir						Hydric Soil Pr	resent? Yes	No 🔿
	Assume hydric soils	due to inundat	ion and obliga	ate vegetation		,	100	
r to mantor 1	issume nyune sons	due to manda	ion and oong	ate regetation.				
HYDROLO	OGY							
Wetland Hy	ydrology Indicators:					Seconda	ary Indicators (2 or mor	e required)
Primary Ind	licators (any one indicators	ator is sufficient)				Wat	er Marks (B1) (Riverin	e)
X Surface	e Water (A1)		Salt Crust (I	B11)		Sed	liment Deposits (B2) (R	iverine)
	/ater Table (A2)	ĺ	Biotic Crust	(B12)		Drift	t Deposits (B3) (Riveri	ne)
X Saturat	tion (A3)	ĺ	Aquatic Inve	ertebrates (B13)		☐ Drai	inage Patterns (B10)	
X SaturatX Water I	Marks (B1) (Nonriveri	ine)	Hydrogen S	Sulfide Odor (C1)		Dry-	-Season Water Table (C2)
Sedime	ent Deposits (B2) (Noi	nriverine)	Oxidized Rh	nizospheres along	Living Root	s (C3) Thir	n Muck Surface (C7)	
Drift De	eposits (B3) (Nonrive	rine)	Presence of	f Reduced Iron (C4	!)	Cray	yfish Burrows (C8)	
Surface	e Soil Cracks (B6)		Recent Iron	Reduction in Plow	ed Soils (C	6) Satu	uration Visible on Aeria	l Imagery (C9)
Inunda	tion Visible on Aerial I	magery (B7) [Other (Expl	ain in Remarks)		Sha	llow Aquitard (D3)	
Water-	Stained Leaves (B9)					FAC	C-Neutral Test (D5)	
Field Obse								
	ervations:							
Surface Wa		es No 💽	Depth (incl	nes):				
Surface Wa	ater Present? Y	es No No No No	• •	<i>′</i>				
Water Table	ater Present? Y e Present? Y Present? Y		Depth (incl	nes):	Mada	a d Uhadas la sua F	20000012 Voc. 6	No.
Water Table Saturation F (includes ca	ater Present? Y e Present? Y Present? Y apillary fringe)	es No No No	Depth (incl	nes):	l l		Present? Yes •	No 🔿
Water Table Saturation F (includes ca	ater Present? Y e Present? Y Present? Y	es No No No	Depth (incl	nes):	l l		Present? Yes	No 🔿
Water Table Saturation F (includes ca Describe Re	ater Present? Y e Present? Y Present? Y apillary fringe)	es No No No	Depth (incl	nes):	l l		Present? Yes 💿	No 🔿
Water Table Saturation F (includes ca	ater Present? Y e Present? Y Present? Y apillary fringe)	es No No No	Depth (incl	nes):	l l		Present? Yes 📵	No 🔿
Water Table Saturation F (includes ca Describe Re	ater Present? Y e Present? Y Present? Y apillary fringe)	es No No No	Depth (incl	nes):	I		Present? Yes •	No 🔿
Water Table Saturation F (includes ca Describe Re	ater Present? Y e Present? Y Present? Y apillary fringe)	es No No No	Depth (incl	nes):	I		Present? Yes 💿	No 🔿
Water Table Saturation F (includes ca Describe Re	ater Present? Y e Present? Y Present? Y apillary fringe)	es No No No	Depth (incl	nes):	I		Present? Yes	No 🔿

US Army Corps of Engineers

Project/Site: Pure Water Program		City/Count	y:San Diego	o/San Diego	Samp	oling Date: 09	9/27/20	16
Applicant/Owner: City of San Diego				State:CA	Samp	oling Point:3b)	
Investigator(s):Callie Ford, Janice Wondolleck		Section, T	ownship, Ra	nge: 32, 14S, 2W		_		
Landform (hillslope, terrace, etc.):		Local relie	ef (concave,	convex, none): None	e	Slop	e (%):	
Subregion (LRR):C - Mediterranean California	Lat:32.9	91		Long:-117.10		 Datum	n:	
Soil Map Unit Name: Redding-urban land complex				NWI cla	assification:	Freshwater ei	mergent	wetland
Are climatic / hydrologic conditions on the site typical for this	time of ye	ear? Yes	No ((If no, explain	- n in Remark	s.)		
Are Vegetation Soil or Hydrology significant	gnificantly	disturbed?	Are "	Normal Circumstan	ces" presen	t? Yes 📵	No (\circ
Are Vegetation Soil or Hydrology na	aturally pr	oblematic?	(If ne	eded, explain any a	nswers in R	emarks.)		
SUMMARY OF FINDINGS - Attach site map s	howing	samplin	g point lo	ocations, transe	ects, imp	ortant fea	tures,	etc.
Hydrophytic Vegetation Present? Yes (No								
	•	ls t	he Sampled	Area				
Wetland Hydrology Present? Yes No	•	wit	hin a Wetlar	nd? Yes	O N	No 💿		
Remarks:								
VEGETATION								
	Absolute	Dominant	Indicator	Dominance Test	worksheet:			
Tree Stratum (Use scientific names.)	% Cover	Species?	Status	Number of Domina	ant Species			
1				That Are OBL, FA	CW, or FAC	0	((A)
2				Total Number of D				
3				Species Across A	ll Strata:	1	((B)
Total Covers	0/			Percent of Domina				(. (5)
Sapling/Shrub Stratum Total Covers	%			That Are OBL, FA	CVV, or FAC	,: 0.0) % ((A/B)
1.Baccharis sarothroides	30	Yes	FACU	Prevalence Index	workshee	t:		
2-Salvia mellifera	3	No	Not Listed	Total % Cove	r of:	Multiply	by:	
3.Baccharis salicifolia	15	No	FAC	OBL species	5	x 1 =	5	
4				FACW species		x 2 =	0	
5				FAC species	15	x 3 =	45	
Total Cover:	48 %			FACU species	30	x 4 =	120	
1-Schoenoplectus acutus	5	No	OBL	UPL species	3	x 5 =	15	(D)
2. Unknown herb		No		Column Totals:	53	(A)	185	(B)
3.				Prevalence	Index = B/A	ν =	3.49	
4.				Hydrophytic Veg	etation Indi	icators:		
5.				Dominance T	est is >50%			
6.				Prevalence In				
7.				Morphologica		ns¹ (Provide s na separate s		ng
8.				Problematic H			,	,
Total Cover: Woody Vine Stratum	10 %				.,	v ogotalion (,=,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	′
1.				¹ Indicators of hyd	ric soil and	wetland hyd	rology n	nust
2.				be present.			•	
Total Cover:	%			Hydrophytic				
% Bare Ground in Herb Stratum % % Cover	of Riotic (ruet	0/-	Vegetation Present?	Yes (No (
Remarks:	טווטווט (<u>%</u>	i resent:	163 🔘	140 🔘		
Tromano.								

SOIL Sampling Point: 3b

Profile Des	cription: (Describe Matrix	to the depth ne	eeded to document the indicator or Redox Features	confirn	n the absence of	indicators.)
(inches)	Color (moist)	% C	color (moist) % Type ¹	Loc ²	Texture ³	Remarks
0-6	N/A	50			Gravel/cobble	Fill material
0-6	7.5 YR 4/3	50			Sandy loam	Fill material
	-					-
	-					
1T C. (Sanasatustian D. Dani	lation DM Day	hood Matrix 21 and a Di Day		O. D. at Observat	NA NATION
	Concentration, D=Deples: Clay, Silty Clay, S			-		n, Silt Loam, Silt, Loamy Sand, Sand.
			Inless otherwise noted.)	olay Loa		Problematic Hydric Soils:
Histoso		[Sandy Redox (S5)			k (A9) (LRR C)
	pipedon (A2)	į	Stripped Matrix (S6)			k (A10) (LRR B)
	Histic (A3)		Loamy Mucky Mineral (F1)			Vertic (F18)
	en Sulfide (A4) ed Layers (A5) (LRR (•)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)			nt Material (TF2) plain in Remarks)
	luck (A9) (LRR D)	•) [Redox Dark Surface (F6)		Other (Ex	piairi iri Kemarks)
	ed Below Dark Surface	e (A11)	Depleted Dark Surface (F7)			
	Oark Surface (A12)	ĺ	Redox Depressions (F8)			
	Mucky Mineral (S1)	[Vernal Pools (F9)			nydrophytic vegetation and
	Gleyed Matrix (S4) Layer (if present):				welland ny	drology must be present.
Type:	Layer (ii present).					
Depth (ir	nches):		_		Hydric Soil Pro	esent? Yes No (•)
Remarks:					,	
	nov.					
HYDROLO	ydrology Indicators:				Soconda	ry Indicators (2 or more required)
	icators (any one indica	ator is sufficient	A)			er Marks (B1) (Riverine)
	e Water (A1)	ator is summern	Salt Crust (B11)			ment Deposits (B2) (Riverine)
	ater Table (A2)		Biotic Crust (B12)			Deposits (B3) (Riverine)
	tion (A3)		Aquatic Invertebrates (B13)			nage Patterns (B10)
	Marks (B1) (Nonriveri	ne)	Hydrogen Sulfide Odor (C1)			Season Water Table (C2)
Sedime	ent Deposits (B2) (Nor	nriverine)	Oxidized Rhizospheres along Li	ving Roo	ots (C3) Thin	Muck Surface (C7)
Drift De	eposits (B3) (Nonriver	rine)	Presence of Reduced Iron (C4)		Cray	fish Burrows (C8)
Surface	e Soil Cracks (B6)		Recent Iron Reduction in Plower	d Soils (C6) Satu	ration Visible on Aerial Imagery (C9)
	tion Visible on Aerial I	magery (B7)	Other (Explain in Remarks)			low Aquitard (D3)
	Stained Leaves (B9)				FAC	-Neutral Test (D5)
Field Obse						
		es No (_		
Water Table		es O No (~ · 	_		
Saturation F	Present? Υα apillary fringe)	es O No (Depth (inches):	Wetl	and Hydrology P	resent? Yes No
		gauge, monitor	ring well, aerial photos, previous inspe	ections),	if available:	
Remarks:						
US Army Corr	os of Engineers					

Project/Site: Pure Water Program	_ City/Cou	nty:San Diego	o/San Diego	Samp	ling Date: 09/	27/2016
Applicant/Owner: City of San Diego			State:CA	Samp	ling Point:4a	
Investigator(s): Callie Ford, Janice Wondolleck	Section,	Township, Rar	nge: 32, 14S, 2W			
Landform (hillslope, terrace, etc.):	Local re	lief (concave, c	convex, none): None	e	Slope	(%):
Subregion (LRR):C - Mediterranean California Lat:32			Long:-117.10		 Datum:	
Soil Map Unit Name: Redding gravelly loam			NWI cla	assification: I	 Freshwater p	ond
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes	No ((If no, explain	n in Remarks	s.)	
Are Vegetation Soil or Hydrology significant	tly disturbed	d? Are "	Normal Circumstan	ces" present	? Yes 💿	No 🔘
Are Vegetation Soil or Hydrology naturally p	problematic	? (If ne	eded, explain any a	nswers in Re	emarks.)	
SUMMARY OF FINDINGS - Attach site map showin	ig sampli	ing point lo	cations, transe	ects, impo	ortant feat	ures, etc.
Hydrophytic Vegetation Present? Yes No No						
Hydric Soil Present? Yes No	Is	the Sampled	Area			
Wetland Hydrology Present? Yes No No		ithin a Wetlan		● N	0 (
Remarks: This data station was taken within freshwater mars	sh south of	f the Mirama	r Reservoir.			
VEGETATION						
Absolute	n Domina	nt Indicator	Dominance Test	workshoot:		
Tree Stratum (Use scientific names.) % Cove			Number of Domina			
1.			That Are OBL, FA		: 1	(A)
2.			Total Number of D)ominant		
3.			Species Across A		1	(B)
4			Percent of Domina	ant Species		
Total Cover: 9 Sapling/Shrub Stratum	%		That Are OBL, FA		100.0) % (A/B)
1.			Prevalence Index	worksheet	:	
2.			Total % Cove	r of:	Multiply b	oy:
3.			OBL species	100	x 1 =	100
4.			FACW species		x 2 =	0
5.			FAC species		x 3 =	0
	%		FACU species		x 4 =	0
Herb Stratum	37		UPL species		x 5 =	0
1. Typha domingensis 100	Yes	OBL	Column Totals:	100	(A)	100 (B)
3.			Prevalence	Index = B/A	=	1.00
4.			Hydrophytic Veg	etation Indi		
5.			× Dominance T	est is >50%		
6.			× Prevalence In	idex is ≤3.0¹		
7.			Morphologica			
8.			Problematic H		a separate sh	*
Total Cover: 1009	%		1 Toblematic 1	iyaropiiyiic v	regetation (L	-Apiairi)
Woody Vine Stratum 1.			¹ Indicators of hyd	ric soil and	wetland hydro	oloav must
2.			be present.		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	3,
	<u> </u>		Hydrophytic			
		0/	Vegetation	Voc 🕝	No C	
		<u>%</u>	Present?	Yes	No 🔘	
Remarks:						

SOIL Sampling Point: 4a

(inches)	Matrix		Redo	x Feature	S				
,,	Color (moist)	% C	olor (moist)	%	Type ¹	Loc ²	Texture	e ³	Remarks
0-12	2.5 YR 3/1	98 7.5	YR 4/6	2	C	PL	Silty clay lo	oam	
	-								
	-								
	-								
	-								
1T C. C			I Matrix	21 1' -	- DI D.	The land of D	O D + Ob		Marketin
	Concentration, D=Depl					_	C=Root Ch		=iviatrix. Silt Loam, Silt, Loamy Sand, Sand.
	Indicators: (Applicabl				andy Loan	, Clay Lua			oblematic Hydric Soils:
Histoso		e to all LRRS, u	Sandy Redo	-					(A9) (LRR C)
	pipedon (A2)	[Stripped Ma	, ,					(A10) (LRR B)
	listic (A3)	[Loamy Muc	. ,	al (F1)				ertic (F18)
Hydrog	en Sulfide (A4)		Loamy Gley						Material (TF2)
Stratifie	ed Layers (A5) (LRR C	;)	Depleted M	atrix (F3)			Oth	ner (Expla	ain in Remarks)
	uck (A9) (LRR D)	ĺ	Redox Dark		` '				
	ed Below Dark Surface	e (A11)	Depleted D						
	Park Surface (A12)	ļ	Redox Dep		(F8)		41 11 1		deserve and affect and
	Mucky Mineral (S1) Gleyed Matrix (S4)	l	Vernal Pool	s (F9)					drophytic vegetation and blogy must be present.
<u> </u>	Layer (if present):						Wett	and myun	blogy must be present.
	Layer (ii present).								
Type:	I \		_				United a d	0 - !! D	and Nac Na O
Depth (in							Hyaric	Soli Pres	ent? Yes No
Remarks: A	Assume hydric soils	due to inunda	ation and obli	gate veg	etation.				
HYDROLC	OGY								
							Se	econdary	Indicators (2 or more required)
Wetland Hy	/drology Indicators:	ator is sufficient)				Se		Indicators (2 or more required) Marks (B1) (Riverine)
Wetland Hy Primary Indi	/drology Indicators: icators (any one indica	ator is sufficient		(B11)			Se	Water	Marks (B1) (Riverine)
Wetland Hy Primary Indi Surface	ydrology Indicators: icators (any one indicate Water (A1)	ator is sufficient	Salt Crust	` '			Se	Water	Marks (B1) (Riverine) ent Deposits (B2) (Riverine)
Wetland Hy Primary Indi X Surface High W	rdrology Indicators: icators (any one indicate Water (A1) later Table (A2)	ator is sufficient	Salt Crust Biotic Crus	st (B12)	es (B13)		Se	Water Sedime Drift De	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine)
Wetland Hy Primary Indi Surface High W Saturat	rdrology Indicators: icators (any one indicate Water (A1) ater Table (A2) ion (A3)		Salt Crust Biotic Crust Aquatic In	st (B12) vertebrat	` '		Se	Water I Sedime Drift De	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10)
Wetland Hy Primary Indi Surface High W Saturat Water N	rdrology Indicators: icators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonriveri	ne)	Salt Crust Biotic Crust Aquatic In Hydrogen	st (B12) vertebrat Sulfide C	dor (C1)	Living Roc		Water Sedime Drift December Drainae	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2)
Wetland Hy Primary Indi Surface High W Saturat Water M Sedime	rdrology Indicators: icators (any one indicate Water (A1) fater Table (A2) ion (A3) Marks (B1) (Nonriverient Deposits (B2) (Nor	ne) nriverine)	Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F	st (B12) vertebrate Sulfide C Rhizosphe	odor (C1) eres along	-		Water I Sedime Drift De Drainae Dry-Se Thin M	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) uck Surface (C7)
Wetland Hy Primary Indi Surface High W Saturat Water M Sedime Drift De	rdrology Indicators: icators (any one indicators) water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonrivering the Deposits (B2) (Norrivering posits (B3) (Nonrivering posit	ne) nriverine)	Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence	st (B12) vertebrate Sulfide C Rhizosphe of Reduc	odor (C1) eres along ed Iron (C4	1)	ots (C3)	Water I Sedime Drift De Drainae Dry-Se Thin M Crayfis	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) uck Surface (C7) th Burrows (C8)
Wetland Hy Primary Indi Surface High W Saturat Water M Sedime Drift De Surface	rdrology Indicators: icators (any one indicate Water (A1) later Table (A2) ion (A3) Marks (B1) (Nonriveri ent Deposits (B2) (Nor eposits (B3) (Nonriver e Soil Cracks (B6)	ne) nriverine) ine)	Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro	st (B12) vertebrate Sulfide C Rhizosphe of Reduce	odor (C1) eres along ed Iron (C4 tion in Plow	1)	ots (C3)	Water I Sedime Drift De Drainae Dry-Se Thin M Crayfis Saturae	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) uck Surface (C7) h Burrows (C8) tion Visible on Aerial Imagery (C9)
Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Surface Inundat	rdrology Indicators: icators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonriverient Deposits (B2) (Norrivere) exposits (B3) (Nonrivere) exposits (B3) (Nonrivere) exposits (B6) tion Visible on Aerial In	ne) nriverine) ine)	Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence	st (B12) vertebrate Sulfide C Rhizosphe of Reduce	odor (C1) eres along ed Iron (C4 tion in Plow	1)	ots (C3)	Water Sedime Drift De Drainae Dry-Se Thin M Crayfis Saturae Shallow	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) uck Surface (C7) th Burrows (C8) tion Visible on Aerial Imagery (C9) w Aquitard (D3)
Wetland Hy Primary Indi Surface High W Saturat Water M Sedime Drift De Surface Inundat Water-S	rdrology Indicators: icators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonriveri ent Deposits (B2) (Nor eposits (B3) (Nonriver e Soil Cracks (B6) tion Visible on Aerial In Stained Leaves (B9)	ne) nriverine) ine)	Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro	st (B12) vertebrate Sulfide C Rhizosphe of Reduce	odor (C1) eres along ed Iron (C4 tion in Plow	1)	ots (C3)	Water Sedime Drift De Drainae Dry-Se Thin M Crayfis Saturae Shallow	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) uck Surface (C7) h Burrows (C8) tion Visible on Aerial Imagery (C9)
Wetland Hy Primary Indi Surface High W Saturat Water M Sedime Drift De Surface Inundat Water-S Field Obser	drology Indicators: icators (any one indicate Water (A1) fater Table (A2) ion (A3) Marks (B1) (Nonriveri ent Deposits (B2) (Nor eposits (B3) (Nonriveri e Soil Cracks (B6) tion Visible on Aerial In Stained Leaves (B9) rvations:	ne) nriverine) ine) magery (B7)	Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Other (Exp	st (B12) vertebrate Sulfide C Rhizosphe of Reduce in Reduce blain in R	odor (C1) eres along ed Iron (C4 ion in Plow emarks)	1)	ots (C3)	Water Sedime Drift De Drainae Dry-Se Thin M Crayfis Saturae Shallow	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) uck Surface (C7) th Burrows (C8) tion Visible on Aerial Imagery (C9) w Aquitard (D3)
Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Surface Inundat Water-S Field Obset	rdrology Indicators: icators (any one indicate) water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonriverient Deposits (B2) (Norriveries Soil Cracks (B6) ition Visible on Aerial In Stained Leaves (B9) rvations:	ne) nriverine) ine) magery (B7) es • No (Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Other (Exp	st (B12) vertebrat Sulfide C Rhizospho of Reduct on Reduct olain in R	odor (C1) eres along ed Iron (C4 tion in Plow	1)	ots (C3)	Water Sedime Drift De Drainae Dry-Se Thin M Crayfis Saturae Shallow	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) uck Surface (C7) th Burrows (C8) tion Visible on Aerial Imagery (C9) w Aquitard (D3)
Primary Indi Surface High W Saturati Water M Sedime Drift De Surface Inundat Water-S Field Obser Surface Wa Water Table	rdrology Indicators: icators (any one indicate Water (A1) iater Table (A2) ion (A3) Marks (B1) (Nonriverient Deposits (B2) (Norriverient Deposits (B3) (Nonriverient Deposits (B6) (Nonriverient Depos	ne) nriverine) ine) magery (B7) es • No (es • No (Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Other (Exp	st (B12) vertebrat Sulfide C Rhizospho of Reduct on Reduct olain in R ches):	odor (C1) eres along ed Iron (C4 ion in Plow emarks)	1)	ots (C3)	Water Sedime Drift De Drainae Dry-Se Thin M Crayfis Saturae Shallow	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) uck Surface (C7) th Burrows (C8) tion Visible on Aerial Imagery (C9) w Aquitard (D3)
Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Surface Inundat Water-S Field Obser Surface Wa Water Table Saturation F	rdrology Indicators: icators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonrivering Prosits (B2) (Norrivering Prosits (B3) (Nonrivering Prosits (B4)) Action Visible on Aerial In Stained Leaves (B9)	ne) nriverine) ine) magery (B7) es • No (Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Other (Exp	st (B12) vertebrat Sulfide C Rhizospho of Reduct on Reduct olain in R ches):	odor (C1) eres along ed Iron (C4 ion in Plow emarks)	t) yed Soils (0	ots (C3)	Water Sedime Drift De Drainae Thin M Crayfis Saturae Shallow FAC-N	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) uck Surface (C7) th Burrows (C8) tion Visible on Aerial Imagery (C9) w Aquitard (D3)
Wetland Hy Primary Indi Surface High W Saturati Sedime Drift De Surface Inundat Water-S Field Obset Surface Wa Water Table Saturation F (includes ca	rdrology Indicators: icators (any one indicate Water (A1) iater Table (A2) ion (A3) Marks (B1) (Nonriverient Deposits (B2) (Norriverient Deposits (B3) (Nonriverient Deposits (B6) (Nonriverient Depos	ne) nriverine) ine) magery (B7) es No (es No (Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Other (Exp Depth (in Depth (in	st (B12) vertebrat Sulfide C Rhizospho of Reduct on Reduct olain in R ches): ches):	odor (C1) eres along ed Iron (C4 cion in Plow emarks)	ved Soils (0	ots (C3)	Water Sedime Drift De Drainae Thin M Crayfis Saturat Shallov FAC-N	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) uck Surface (C7) th Burrows (C8) tion Visible on Aerial Imagery (C9) w Aquitard (D3) eutral Test (D5)
Wetland Hy Primary Indi Surface High W Saturati Water N Sedime Drift De Surface Inundat Water-S Field Obser Surface Wa Water Table Saturation F (includes ca	rdrology Indicators: icators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonrivering the Deposits (B2) (Nonrivering Soil Cracks (B6) ation Visible on Aerial Instained Leaves (B9) rvations: ter Present? Present? Apillary fringe)	ne) nriverine) ine) magery (B7) es No (es No (Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Other (Exp Depth (in Depth (in	st (B12) vertebrat Sulfide C Rhizospho of Reduct on Reduct olain in R ches): ches):	odor (C1) eres along ed Iron (C4 cion in Plow emarks)	ved Soils (0	ots (C3)	Water Sedime Drift De Drainae Thin M Crayfis Saturat Shallov FAC-N	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) uck Surface (C7) th Burrows (C8) tion Visible on Aerial Imagery (C9) w Aquitard (D3) eutral Test (D5)
Wetland Hy Primary Indi Surface High W Saturati Water N Sedime Drift De Surface Inundat Water-S Field Obser Surface Wa Water Table Saturation F (includes ca	rdrology Indicators: icators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonrivering the Deposits (B2) (Nonrivering Soil Cracks (B6) ation Visible on Aerial Instained Leaves (B9) rvations: ter Present? Present? Apillary fringe)	ne) nriverine) ine) magery (B7) es No (es No (Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Other (Exp Depth (in Depth (in	st (B12) vertebrat Sulfide C Rhizospho of Reduct on Reduct olain in R ches): ches):	odor (C1) eres along ed Iron (C4 cion in Plow emarks)	ved Soils (0	ots (C3)	Water Sedime Drift De Drainae Thin M Crayfis Saturat Shallov FAC-N	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) uck Surface (C7) th Burrows (C8) tion Visible on Aerial Imagery (C9) w Aquitard (D3) eutral Test (D5)
Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Surface Inundat Water-S Field Obser Surface Wa Water Table Saturation F (includes ca	rdrology Indicators: icators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonrivering the Deposits (B2) (Nonrivering Soil Cracks (B6) ation Visible on Aerial Instained Leaves (B9) rvations: ter Present? Present? Apillary fringe)	ne) nriverine) ine) magery (B7) es No (es No (Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Other (Exp Depth (in Depth (in	st (B12) vertebrat Sulfide C Rhizospho of Reduct on Reduct olain in R ches): ches):	odor (C1) eres along ed Iron (C4 cion in Plow emarks)	ved Soils (0	ots (C3)	Water Sedime Drift De Drainae Thin M Crayfis Saturat Shallov FAC-N	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) uck Surface (C7) th Burrows (C8) tion Visible on Aerial Imagery (C9) w Aquitard (D3) eutral Test (D5)
Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Surface Inundat Water-S Field Obser Surface Wa Water Table Saturation F (includes ca	rdrology Indicators: icators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonrivering the Deposits (B2) (Nonrivering Soil Cracks (B6) ation Visible on Aerial Instained Leaves (B9) rvations: ter Present? Present? Apillary fringe)	ne) nriverine) ine) magery (B7) es No (es No (Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Other (Exp Depth (in Depth (in	st (B12) vertebrat Sulfide C Rhizospho of Reduct on Reduct olain in R ches): ches):	odor (C1) eres along ed Iron (C4 cion in Plow emarks)	ved Soils (0	ots (C3)	Water Sedime Drift De Drainae Thin M Crayfis Saturat Shallov FAC-N	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) uck Surface (C7) th Burrows (C8) tion Visible on Aerial Imagery (C9) w Aquitard (D3) eutral Test (D5)
Wetland Hy Primary Indi Surface High W Saturat Sedime Drift De Surface Inundat Water-S Field Obser Surface Wa Water Table Saturation F (includes ca	rdrology Indicators: icators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonrivering the Deposits (B2) (Nonrivering Soil Cracks (B6) ation Visible on Aerial Instained Leaves (B9) rvations: ter Present? Present? Apillary fringe)	ne) nriverine) ine) magery (B7) es No (es No (Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Other (Exp Depth (in Depth (in	st (B12) vertebrat Sulfide C Rhizospho of Reduct on Reduct olain in R ches): ches):	odor (C1) eres along ed Iron (C4 cion in Plow emarks)	ved Soils (0	ots (C3)	Water Sedime Drift De Drainae Thin M Crayfis Saturat Shallov FAC-N	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) uck Surface (C7) th Burrows (C8) tion Visible on Aerial Imagery (C9) w Aquitard (D3) eutral Test (D5)
Wetland Hy Primary Indi Surface High W Saturat Sedime Drift De Surface Inundat Water-S Field Obser Surface Wa Water Table Saturation F (includes ca	rdrology Indicators: icators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonrivering the Deposits (B2) (Nonrivering Soil Cracks (B6) ation Visible on Aerial Instained Leaves (B9) rvations: ter Present? Present? Apillary fringe)	ne) nriverine) ine) magery (B7) es No (es No (Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Other (Exp Depth (in Depth (in	st (B12) vertebrat Sulfide C Rhizospho of Reduct on Reduct olain in R ches): ches):	odor (C1) eres along ed Iron (C4 cion in Plow emarks)	ved Soils (0	ots (C3)	Water Sedime Drift De Drainae Thin M Crayfis Saturat Shallov FAC-N	Marks (B1) (Riverine) ent Deposits (B2) (Riverine) eposits (B3) (Riverine) ge Patterns (B10) ason Water Table (C2) uck Surface (C7) th Burrows (C8) tion Visible on Aerial Imagery (C9) w Aquitard (D3) eutral Test (D5)

Project/Site: Pure Water Program		City/Cou	nty:San Dieg	o/San Diego	Sam	pling Date:09	9/27/20	16
Applicant/Owner:City of San Diego				State:CA	Sam	pling Point:41)	
Investigator(s): Callie Ford, Janice Wondolleck		Section,	Township, Ra	nge: 32, 14S, 2W		_		
Landform (hillslope, terrace, etc.):		Local re	lief (concave,	convex, none):Non	ie	Slop	e (%):	
Subregion (LRR):C - Mediterranean California	Lat:32.9	91		Long:-117.10		 Datur	n:	
Soil Map Unit Name: Redding gravelly loam				NWI cl	assification:	Freshwater	pond	
Are climatic / hydrologic conditions on the site typical for this	time of ye	ear? Yes	No (1	
	gnificantly			'Normal Circumstan	nces" preser	nt? Yes	No (\circ
	aturally pr			eeded, explain any a	·			
SUMMARY OF FINDINGS - Attach site map s							itures,	etc.
Hydrophytic Vegetation Present? Yes (No								
Hydric Soil Present? Yes No		Is	the Sampled	l Area				
			rithin a Wetlar	nd? Yes	•	No 🔘		
Remarks: This data station is located near the freshwa	iter mars	h.						
VEGETATION								
	Absolute	Domina	nt Indicator	Dominance Test	workshee	t:		
	% Cover	Species		Number of Domir				
1				That Are OBL, FA			((A)
2				Total Number of I	Dominant			
3			_	Species Across A	All Strata:	2	((B)
4			_	Percent of Domin				
Total Cover Sapling/Shrub Stratum	: %			That Are OBL, FA	ACW, or FA	C: 100	.0 %	(A/B)
1.				Prevalence Inde	x workshee	et:		
2.				Total % Cove	er of:	Multiply	by:	
3.				OBL species	60	x 1 =	60	
4				FACW species	40	x 2 =	80	
5			_	FAC species		x 3 =	0	
Total Cover:	%			FACU species UPL species		x 4 = x 5 =	0	
1. Schoenoplectus spp.	60	Yes	OBL	Column Totals:	100	(A)	0 140	(B)
2. Pluchea odorata	30	Yes	FACW	Column Totals.	100	(A)	140	(D)
3. Atriplex prostrata	10	No	FACW	Prevalence			1.40	
4.			_	Hydrophytic Veg				
5.				★ Dominance 1				
6				× Prevalence I				~ ~
7				Morphologica data in Re		n a separate		ig
8Total Cover:				Problematic	Hydrophytic	Vegetation ¹	(Explain))
Woody Vine Stratum	100%							
1.				¹ Indicators of hyd	dric soil and	wetland hyd	Irology n	nust
2.				be present.				
Total Cover:	%			Hydrophytic Vegetation				
% Bare Ground in Herb Stratum % % Cover	of Biotic C	Crust	%	Present?	Yes 💿	No 🔘		
Remarks:				1				

US Army Corps of Engineers

SOIL Sampling Point: 4b

Depth Matrix		pui necaca to acc	difficint tine		0. 00	rm the absence of indic	ators.)
			dox Featur			-	
(inches) Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture ³	Remarks
0-12N/A	20					Cobble	
0-6 7.5 YR 2.5/1	70	5 YR 3/4	3	<u>C</u>	M	Loamy sand	
0-12 7.5 YR 2.5/1	70	5 YR 4/6	1	C	PL	Loamy sand	
0-12 10 YR 4/2	10					Loamy sand	
6-12 7.5 YR 2.5/1	70	5 YR 3/4	8	С	M	Loamy sand	
¹ Type: C=Concentration, D=De	pletion, RN	M=Reduced Matrix.	² Locatio	n: PL=Por	e Lining, F	RC=Root Channel, M=Ma	atrix.
³ Soil Textures: Clay, Silty Clay	Sandy Cla	ay, Loam, Sandy Cl					Loam, Silt, Loamy Sand, Sand.
Hydric Soil Indicators: (Applica	ble to all L	RRs, unless otherw	ise noted.)			Indicators for Proble	ematic Hydric Soils:
Histosol (A1)		Sandy Re	dox (S5)			1 cm Muck (A9)) (LRR C)
Histic Epipedon (A2)			Matrix (S6)			2 cm Muck (A1	, ,
Black Histic (A3)		Loamy M	lucky Mine	ral (F1)		Reduced Vertic	: (F18)
Hydrogen Sulfide (A4)		Loamy G	leyed Matr	ix (F2)		Red Parent Ma	terial (TF2)
Stratified Layers (A5) (LRR	C)	Depleted	Matrix (F3)		Other (Explain	in Remarks)
1 cm Muck (A9) (LRR D)		Redox D	ark Surface	e (F6)			
Depleted Below Dark Surfa	ce (A11)	Depleted	Dark Surfa	ace (F7)			
Thick Dark Surface (A12)		Redox D	epressions	(F8)			
Sandy Mucky Mineral (S1)		Vernal Po	ools (F9)			⁴ Indicators of hydro	phytic vegetation and
Sandy Gleyed Matrix (S4)		_				wetland hydrolog	gy must be present.
Restrictive Layer (if present):							
Type:							
Depth (inches):						Hydric Soil Present	? Yes (•) No (
Remarks: Assume hydric so	ils due to	inundation and o	hligate ve	getation			
I issume if une so	ns auc to	manaation and o	onguie ve	getation.			
HYDROLOGY							
	S:					Secondary Ind	icators (2 or more required)
Wetland Hydrology Indicators		fficient)					icators (2 or more required) rks (B1) (Riverine)
Wetland Hydrology Indicators Primary Indicators (any one ind		,	set (R11)			Water Mai	rks (B1) (Riverine)
Wetland Hydrology Indicators Primary Indicators (any one ind Surface Water (A1)		Salt Cru	ıst (B11)			Water Mai	rks (B1) (Riverine) Deposits (B2) (Riverine)
Wetland Hydrology Indicators Primary Indicators (any one ind Surface Water (A1) High Water Table (A2)		Salt Cru Biotic C	rust (B12)	(540)		Water Mai Sediment Drift Depo	rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine)
Wetland Hydrology Indicators Primary Indicators (any one ind Surface Water (A1) High Water Table (A2) Saturation (A3)	icator is su	Salt Cru Biotic C Aquatic	rust (B12) Invertebra	, ,		Water Mal Sediment Drift Depo Drainage	rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Patterns (B10)
Wetland Hydrology Indicators Primary Indicators (any one ind Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonrive	icator is su	Salt Cru Biotic C Aquatic Hydroge	rust (B12) Invertebra en Sulfide (Odor (C1)		Water Mai Sediment Drift Depo Drainage I Dry-Seaso	rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Patterns (B10) on Water Table (C2)
Wetland Hydrology Indicators Primary Indicators (any one ind Surface Water (A1) High Water Table (A2) Saturation (A3)	icator is su	Salt Cru Biotic C Aquatic Hydroge	rust (B12) Invertebra en Sulfide (, ,	Living Ro	Water Mai Sediment Drift Depo Drainage I Dry-Seaso	rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Patterns (B10)
Wetland Hydrology Indicators Primary Indicators (any one ind Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonrive	icator is su erine) onriverine	Salt Cru Biotic C Aquatic Hydroge Oxidize	rust (B12) Invertebra en Sulfide (d Rhizosph	Odor (C1)	-	Water Mar Sediment Drift Depo Drainage I Dry-Seaso	rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Patterns (B10) on Water Table (C2)
Wetland Hydrology Indicators Primary Indicators (any one ind Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonrive Sediment Deposits (B2) (N	icator is su erine) onriverine	Salt Cru Biotic C Aquatic Hydroge Oxidize Presence	rust (B12) Invertebra en Sulfide (d Rhizosph ce of Redu	Odor (C1) eres along	4)	Water Mar Sediment Drift Depo Drainage Dry-Seasc	rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Patterns (B10) on Water Table (C2) s Surface (C7)
Wetland Hydrology Indicators Primary Indicators (any one ind Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonrive Sediment Deposits (B2) (N Drift Deposits (B3) (Nonrive	icator is su erine) onriverine erine)	Salt Cru Biotic C Aquatic Hydroge Oxidize Presenc	rust (B12) Invertebra en Sulfide (d Rhizosph ce of Reduction	Odor (C1) heres along ced Iron (C ction in Ploy	4)	Water Mar Sediment Drift Depo Drainage I Dry-Seasc oots (C3) Thin Muck Crayfish B (C6) Saturation	rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Patterns (B10) on Water Table (C2) s Surface (C7) surrows (C8) I Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators Primary Indicators (any one ind Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonrive Sediment Deposits (B2) (N Drift Deposits (B3) (Nonriv Surface Soil Cracks (B6) Inundation Visible on Aeria	erine) conriverine erine)	Salt Cru Biotic C Aquatic Hydroge Oxidize Presenc	rust (B12) Invertebra en Sulfide (d Rhizosph ce of Redu	Odor (C1) heres along ced Iron (C ction in Ploy	4)	Water Mal Sediment Drift Depo Drainage I Dry-Seasc oots (C3) Thin Muck Crayfish B (C6) Saturation Shallow A	rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Patterns (B10) on Water Table (C2) a Surface (C7) durrows (C8) a Visible on Aerial Imagery (C9) quitard (D3)
Wetland Hydrology Indicators Primary Indicators (any one ind Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonrive Sediment Deposits (B2) (N Drift Deposits (B3) (Nonrive Surface Soil Cracks (B6) Inundation Visible on Aeria Water-Stained Leaves (B9)	erine) conriverine erine)	Salt Cru Biotic C Aquatic Hydroge Oxidize Presenc	rust (B12) Invertebra en Sulfide (d Rhizosph ce of Reduction	Odor (C1) heres along ced Iron (C ction in Ploy	4)	Water Mal Sediment Drift Depo Drainage I Dry-Seasc oots (C3) Thin Muck Crayfish B (C6) Saturation Shallow A	rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Patterns (B10) on Water Table (C2) s Surface (C7) surrows (C8) I Visible on Aerial Imagery (C9)
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Project/Site: Pure Water Program		City/Count	San Diego	/San Diego	Sampl	ling Date: 09/	27/20	16
Applicant/Owner: City of San Diego				State:CA	Sampl	ling Point:4c		
Investigator(s): Callie Ford, Janice Wondolleck		Section, To	ownship, Rar	nge: 32, 14S, 2W				
Landform (hillslope, terrace, etc.):		Local relie	ef (concave, c	convex, none):Non	e	Slope	(%):	
Subregion (LRR):C - Mediterranean California L	_at:32.9	1		Long:-117.10		Datum:		
Soil Map Unit Name: Redding gravelly loam				NWI cla	assification: F	 Freshwater p	ond	
Are climatic / hydrologic conditions on the site typical for this tim	ne of ye	ar? Yes	No (_			
		disturbed?		Normal Circumstan	ces" present	? Yes 💿	No	\bigcirc
		blematic?		eded, explain any a				
SUMMARY OF FINDINGS - Attach site map sho							ures,	etc.
Hydrophytic Vegetation Present? Yes No (<u> </u>							
Hydric Soil Present? Yes No		ls t	he Sampled	Area				
Wetland Hydrology Present? Yes No	_		hin a Wetlan		O N	o (•)		
Remarks: This data station was taken within a eucalyptu	is grove	e outside	of the fresh	water marsh (see			on A6	a and
A6b).								
VEGETATION								
	solute	Dominant	Indicator	Dominance Test	workshoot:			
1	Cover	Species?	Status	Number of Domin				
1.Eucalyptus globulus	40	Yes	Not Listed	That Are OBL, FA		0	((A)
2.				Total Number of D	Dominant			
3				Species Across A		1	((B)
4				Percent of Domina	ant Species			
Total Cover: Sapling/Shrub Stratum	40 %			That Are OBL, FA	CW, or FAC:	0.0	% (A/B)
1.				Prevalence Index	x worksheet	:		
2.				Total % Cove	er of:	Multiply b	y:	
3.				OBL species		x 1 =	0	
4.				FACW species		x 2 =	0	
5				FAC species		x 3 =	0	
Total Cover:	%			FACU species		x 4 =	0	
1.				UPL species	40	x 5 =	200	(D)
2.				Column Totals:	40	(A)	200	(B)
3.				Prevalence	Index = B/A	=	5.00	
4.				Hydrophytic Veg	etation Indic	cators:		
5.				Dominance T				
6.				Prevalence Ir				
7				Morphologica		s¹ (Provide su a separate sh		ng
8				Problematic H			,	,
Woody Vine Stratum	%				, , , , , ,	(,	´
1.				¹ Indicators of hyd	lric soil and v	wetland hydro	ology n	nust
2.				be present.				
Total Cover:	%			Hydrophytic				
% Bare Ground in Herb Stratum % % Cover of l	Biotic C	rust	%	Vegetation Present?	Yes 〇	No 💿		
Remarks:					.55)			

SOIL Sampling Point: 4c

Depth (inches)	Matrix		Redo	x Features			
(11101100)	Color (moist)		color (moist)	% Type ¹	Loc ²	Texture ³	Remarks
0-6	7.5 YR 3/2	100	, ,			Sandy loam	
	7.5 11(3/2						
				. <u> </u>			
	-						
	-						
¹ Type: C=C	concentration, D=Depl	letion, RM=Red	luced Matrix.	² Location: PL=Pore	Lining, R	C=Root Channel, M=	Matrix.
Soil Texture	es: Clay, Silty Clay, S	Sandy Clay, Loa	am, Sandy Clay		-		ilt Loam, Silt, Loamy Sand, San
Hydric Soil I	ndicators: (Applicabl	e to all LRRs, u	nless otherwise	noted.)		Indicators for Pro	blematic Hydric Soils:
Histoso	I (A1)		Sandy Redo	x (S5)		1 cm Muck (A	(A9) (LRR C)
Histic E	pipedon (A2)	Ì	Stripped Ma	atrix (S6)		2 cm Muck (A	(10) (LRR B)
Black H	listic (A3)	Ì	Loamy Muc	ky Mineral (F1)		Reduced Ver	tic (F18)
Hydroge	en Sulfide (A4)	ĺ		yed Matrix (F2)		Red Parent N	` '
	d Layers (A5) (LRR C	>)	Depleted M	, ,		Other (Explai	n in Remarks)
1	uck (A9) (LRR D)	[Surface (F6)			
	ed Below Dark Surface	e (A11)		ark Surface (F7)			
	ark Surface (A12)	ļ		ressions (F8)		41 diagrams of laved	
	Mucky Mineral (S1) Gleyed Matrix (S4)	Į	Vernal Pool	IS (F9)		•	rophytic vegetation and ogy must be present.
						welland flydro	ogy must be present.
	Layer (if present):						
Type:			_				
Depth (in	nches):					Hydric Soil Prese	nt? Yes No No
Remarks:							
IYDROLO							
	GY						
						Secondary I	ndicators (2 or more required)
Wetland Hy	drology Indicators:	ator is sufficient	A				ndicators (2 or more required)
Wetland Hy Primary Indi	drology Indicators: cators (any one indica	ator is sufficient		(P44)		Water M	larks (B1) (Riverine)
Wetland Hy Primary Indi Surface	rdrology Indicators: cators (any one indicate Water (A1)	ator is sufficient	Salt Crust	` '		Water M	larks (B1) (Riverine) nt Deposits (B2) (Riverine)
Wetland Hy Primary Indi Surface High Wa	rdrology Indicators: cators (any one indicate Water (A1) ater Table (A2)	ator is sufficient	Salt Crust Biotic Crus	st (B12)		Water M Sedime Drift De	larks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine)
Wetland Hy Primary Indi Surface High Wi	rdrology Indicators: cators (any one indicate Water (A1) ater Table (A2) ion (A3)		Salt Crust Biotic Crust Aquatic In	st (B12) vertebrates (B13)		Water M Sedimer Drift De	larks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10)
Wetland Hy Primary Indi Surface High Wall Saturati Water M	rdrology Indicators: cators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonriveri	ne)	Salt Crust Biotic Crust Aquatic In Hydrogen	st (B12) vertebrates (B13) Sulfide Odor (C1)		Water M Sedimer Drift De Drainag Dry-Sea	larks (B1) (Riverine) Int Deposits (B2) (Riverine) Int Deposits (B3) (Riverine) Int Deposit (B4) (Riverine) Int
Wetland Hy Primary Indi Surface High Water N Water N Sedime	rdrology Indicators: cators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonriverient Deposits (B2) (Nor	ne) nriverine)	Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F	st (B12) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along	-	Water M Sedimer Drift De Drainag Dry-Sea ots (C3) Thin Mu	larks (B1) (Riverine) Int Deposits (B2) (Riverine) Int Deposits (B3) (Riverine) Int Deposits (B3) (Riverine) Int Deposits (B1) (Riverine) Int Deposits (B2) (Riverine) Int Deposit (B2) (Riverine) Int
Wetland Hy Primary Indi Surface High Water N Sedime Drift De	rdrology Indicators: cators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonrivering Deposits (B2) (Norrivering Deposits (B3) (Nonrivering Deposits (B3) (Nonriver	ne) nriverine)	Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence	st (B12) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4	1)	Water M Sedimer Drift Der Drainag Dry-Sea Dts (C3) Thin Mu Crayfish	larks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8)
Wetland Hy Primary Indi Surface High Water M Sedime Drift De Surface	rdrology Indicators: cators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonriveri ant Deposits (B2) (Nonriveri e Soil Cracks (B6)	ne) nriverine) ine)	Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro	st (B12) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 on Reduction in Plow	1)	Water M Sedimer Drift Der Drainag Dry-Sea Dts (C3) Thin Mu Crayfish C6) Saturati	larks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C9)
Wetland Hy Primary Indi Surface High Water N Sedime Drift De Surface Inundat	rdrology Indicators: cators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonriveri ent Deposits (B2) (Nor eposits (B3) (Nonriveri es Soil Cracks (B6) ion Visible on Aerial II	ne) nriverine) ine)	Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro	st (B12) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4	1)	Water M Sedimer Drift De Drainag Dry-Sea Ots (C3) Thin Mu Crayfish C6) Saturati Shallow	larks (B1) (Riverine) Int Deposits (B2) (Riverine) Int Deposits (B3) (Riverine) Int Deposits (B3) (Riverine) Int Deposits (B3) (Riverine) Int Deposits (B10) Int Depo
Wetland Hy Primary Indi Surface High Water N Sedime Drift De Surface Inundat Water-S	rdrology Indicators: cators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonriverient Deposits (B2) (Norriveries Soil Cracks (B6) ion Visible on Aerial In Stained Leaves (B9)	ne) nriverine) ine)	Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro	st (B12) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 on Reduction in Plow	1)	Water M Sedimer Drift De Drainag Dry-Sea Ots (C3) Thin Mu Crayfish C6) Saturati Shallow	larks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C9)
Wetland Hy Primary Indi Surface High Water N Sedime Drift De Surface Inundat Water-S	rdrology Indicators: cators (any one indicate Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonriverient Deposits (B2) (Norriveries Soil Cracks (B6) ion Visible on Aerial In Stained Leaves (B9)	ne) nriverine) ine)	Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro	st (B12) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 on Reduction in Plow	1)	Water M Sedimer Drift De Drainag Dry-Sea Ots (C3) Thin Mu Crayfish C6) Saturati Shallow	larks (B1) (Riverine) Int Deposits (B2) (Riverine) Int Deposits (B3) (Riverine) Int Deposits (B3) (Riverine) Int Deposits (B3) (Riverine) Int Deposits (B10) Int Depo
Wetland Hy Primary Indi Surface High Water M Sedime Drift De Surface Inundat Water-S Field Obser	cators (any one indicators: cators (any one indicators) (any one indicators) (and the indicators) (and indic	ne) nriverine) ine)	Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Other (Exp	st (B12) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 on Reduction in Plow blain in Remarks)	1)	Water M Sedimer Drift De Drainag Dry-Sea Ots (C3) Thin Mu Crayfish C6) Saturati Shallow	larks (B1) (Riverine) Int Deposits (B2) (Riverine) Int Deposits (B3) (Riverine) Int Deposits (B3) (Riverine) Int Deposits (B3) (Riverine) Int Deposits (B10) Int Depo
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Primary Indi Surface High Water M Sedime Drift De Surface Inundat Water-S Field Obser Surface Water Table Saturation F Sincludes ca	rdrology Indicators: cators (any one indicators) Water (A1) ater Table (A2) ion (A3) Marks (B1) (Nonriverient Deposits (B2) (Norriverient Deposits (B3) (Nonriverient Deposits (B6) ion Visible on Aerial Instained Leaves (B9) rvations: ter Present? Present? Present? Present? Vierpolitary fringe)	ne) nriverine) ine) magery (B7) es No (es No	Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Other (Exp Depth (in Depth (in	st (B12) vertebrates (B13) Sulfide Odor (C1) Rhizospheres along of Reduced Iron (C4 on Reduction in Plow plain in Remarks) ches): ches):	yed Soils (Water M Sedimer Drift Der Drainag Dry-Sea Ots (C3) Thin Mu Crayfish C6) Saturati Shallow FAC-Ne	larks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C9 Aquitard (D3) utral Test (D5)

Applicant/Owner: City of San Diego Investigator(s): Callie Ford, Janice Wondolleck Landform (hillslope, terrace, etc.): Subregion (LRR): C - Mediterranean California Lat: 32.9 Soil Map Unit Name: Redding cobbly loam Are climatic / hydrologic conditions on the site typical for this time of years are Vegetation Soil or Hydrology significantly are Vegetation Soil or Hydrology naturally property or Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Memarks: VEGETATION Absolute % Cover	Local relia	No (? Are "	(If no, explain in 'Normal Circumstances" peeded, explain any answeocations, transects	cation: Fres Remarks.) present? N	arks.) ant featui	ed/shrub w
Are Vegetation Soil or Hydrology naturally problems Nowing Hydrophytic Vegetation Present? Yes No Wetland Hydrology Present? Yes No Remarks: VEGETATION Lat: 32.9 Absolute Soil Map Unit Name: Redding cobbly loam Lat: 32.9 Lat:	Local reliable 90 ear? Yes (/ disturbed' oblematic? J samplii Is (with	No (? Are " (If not point letthe Sampled	convex, none): None Long:-117.11 NWI classifi (If no, explain in 'Normal Circumstances" peeded, explain any answerocations, transects	Remarks.) present? \ ers in Rema s, import	Datum:_hwater forrester Yes arks.) ant featur	ed/shrub w
Subregion (LRR):C - Mediterranean California Lat:32.9 Soil Map Unit Name: Redding cobbly loam Are climatic / hydrologic conditions on the site typical for this time of years Are Vegetation Soil or Hydrology significantly Are Vegetation Soil or Hydrology naturally property SUMMARY OF FINDINGS - Attach site map showing Hydrophytic Vegetation Present? Yes No Hydrophytic Vegetation Present? Yes No Wetland Hydrology Present? Yes No Remarks: VEGETATION Tree Stratum (Use scientific names.) Absolute % Cover	ear? Yes (/ disturbed' oblematic? J samplii Is with	No (? Are " (If no ng point le	Long:-117.11 NWI classifi (If no, explain in 'Normal Circumstances" peeded, explain any answer ocations, transects	Remarks.) present? \ ers in Rema s, import	Datum:_hwater forrester Yes arks.) ant featur	ed/shrub w
Soil Map Unit Name: Redding cobbly loam Are climatic / hydrologic conditions on the site typical for this time of year every expectation Soil or Hydrology significantly on Hydrology naturally properties. Soil or Hydrology naturally properties. SUMMARY OF FINDINGS - Attach site map showing Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: VEGETATION Tree Stratum (Use scientific names.) Absolute % Cover	ear? Yes (/ disturbed' oblematic? J samplii Is /	? Are " (If no point le	NWI classifi (If no, explain in 'Normal Circumstances" peeded, explain any answe ocations, transects d Area	Remarks.) present? \ ers in Rema s, import	hwater forreste	No 🔿
Are climatic / hydrologic conditions on the site typical for this time of year Vegetation Soil or Hydrology significantly naturally property of the Vegetation Soil or Hydrology naturally property or Hydrology naturally property or Hydrophytic Vegetation Present? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No Mo Remarks: VEGETATION Absolute % Cover	disturbed distur	? Are " (If no point le	(If no, explain in 'Normal Circumstances" peeded, explain any answeocations, transects	Remarks.) present? \ ers in Rema s, import	Yes arks.) ant featur	No 🔿
Are Vegetation Soil or Hydrology naturally provided by Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: Vegetation Soil or Hydrology naturally provided by No	disturbed distur	? Are " (If no point le	'Normal Circumstances" peeded, explain any answe ocations, transects	oresent? \\ ers in Rema	arks.) ant featui	
Are Vegetation Soil or Hydrology naturally problems of Hydrology naturally problems of Hydrology naturally problems of Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: VEGETATION Tree Stratum (Use scientific names.) Absolute % Cover	oblematic? sampline Is to with	(If none point le	eeded, explain any answe ocations, transects	ers in Rema	arks.) ant featui	
Are Vegetation Soil or Hydrology naturally problems of Hydrology naturally problems of Hydrology naturally problems of Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: VEGETATION Tree Stratum (Use scientific names.) Absolute % Cover	J samplii	ng point l	ocations, transects	s, import	arks.) ant featui	
SUMMARY OF FINDINGS - Attach site map showing Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No No Metland Hydrology Present? Yes No Metland Hydrology Present? Yes No Metland Hydrology Present? Yes Absolute YEGETATION Tree Stratum (Use scientific names.) Absolute % Cover	J samplii	ng point l	ocations, transects	s, import	ant featui	res, etc
Hydric Soil Present? Wetland Hydrology Present? Remarks: VEGETATION Tree Stratum (Use scientific names.) Yes No No No Absolute % Cover	wit		_	No (•	
Hydric Soil Present? Wetland Hydrology Present? Remarks: VEGETATION Tree Stratum (Use scientific names.) Yes No No No Absolute % Cover	wit		_	No (•	
Wetland Hydrology Present? Remarks: VEGETATION Tree Stratum (Use scientific names.) Absolute % Cover	wit		_	No (•	
VEGETATION Tree Stratum (Use scientific names.) Absolute % Cover	Dominan					
Tree Stratum (Use scientific names.) Absolute % Cover	Dominan					
Tree Stratum (Use scientific names.) <u>% Cover</u>		t Indicator	Dominance Test wor	kehoot:		
1.			Number of Dominant S That Are OBL, FACW,	Species	2	(A)
2.	-	-	-		2	(71)
3.	-		 Total Number of Domining Species Across All Strand 		2	(B)
4.	-	•	- '		2	()
Total Cover: %			 Percent of Dominant S That Are OBL, FACW, 		100.0 %	6 (A/B)
Sapling/Shrub Stratum 1.			Prevalence Index wo	rksheet:		
2.	-	-	Total % Cover of:	- Nonooti	Multiply by:	:
3.	-	-	OBL species	30 x 1		30
4.	-		FACW species	3 x 2	2 =	6
5.			FAC species	50 x 3	3 = 1	150
Total Cover: %			FACU species	x 4		0
Herb Stratum	Van		UPL species	x 5		0
1-Cotula coronopifolia 20 2-Anemopsis californica 10	Yes No	OBL	Column Totals:	83 (A)	1	186 (E
3. Cyperus eragrostis 3	No	OBL FACW	Prevalence Index	x = B/A =	2	2.24
4. Paspalum dilatatum 50	Yes	FAC	Hydrophytic Vegetati	ion Indicat	ors:	
5.		-	→ Dominance Test is	s >50%		
6.	-		Prevalence Index	is ≤3.0 ¹		
7.			Morphological Ada data in Remark			
8.			Problematic Hydro			
Woody Vine Stratum Total Cover: 83 %				- p, ao vog	, (LA)	/
1.			¹ Indicators of hydric se	oil and wet	land hydrold	ogy must
2.	-		be present.		,	•
Total Cover: %		-	Hydrophytic			
% Bare Ground in Herb Stratum % % Cover of Biotic 0	Crust	%	Vegetation Present? Ye	es 💿	No 🔿	
Remarks: While there is a small amount of vegetation present						1 .

SOIL Sampling Point: 5a

Profile Des	cription: (Describe Matrix	to the depth	needed to document the indicator or Redox Features	confirm	the absence of inc	dicators.)
(inches)	Color (moist)	%		Loc ²	Texture ³	Remarks
0-4	10 YR 2/1	100			Sandy loam	
	- 10 11(2/1					
-	-	· —— —				
	-					
	-					
	-					
	Concentration, D=Dep			-		
			oam, Sandy Clay Loam, Sandy Loam, C	lay Loan		
	٠	le to all LRRs	, unless otherwise noted.)			oblematic Hydric Soils:
Histoso	Epipedon (A2)		Sandy Redox (S5) Stripped Matrix (S6)		Ш `	(A9) (LRR C) (A10) (LRR B)
	Histic (A3)		Loamy Mucky Mineral (F1)		Reduced Ve	
	en Sulfide (A4)		Loamy Gleyed Matrix (F2)			Material (TF2)
Stratifie	ed Layers (A5) (LRR (C)	Depleted Matrix (F3)		Other (Expla	ain in Remarks)
	luck (A9) (LRR D)		Redox Dark Surface (F6)		_	
і Ш	ed Below Dark Surfac	e (A11)	Depleted Dark Surface (F7)			
	Dark Surface (A12)		Redox Depressions (F8)		4	
	Mucky Mineral (S1) Gleyed Matrix (S4)		Vernal Pools (F9)		•	drophytic vegetation and blogy must be present.
	Layer (if present):				welland nyun	blogy must be present.
Type:Ro						
	nches):4		<u> </u>		Hydric Soil Pres	ent? Yes No (•)
Remarks:					nyunc son Fres	entr res No 🖜
ixemaiks.						
HYDROL	OGY					
Wetland H	ydrology Indicators:				Secondary	Indicators (2 or more required)
Primary Ind	icators (any one indic	ator is sufficie	ent)		Water I	Marks (B1) (Riverine)
X Surface	e Water (A1)		Salt Crust (B11)			ent Deposits (B2) (Riverine)
High W	ater Table (A2)		Biotic Crust (B12)		✓ Drift De	eposits (B3) (Riverine)
Satura	tion (A3)		Aquatic Invertebrates (B13)		X Draina	ge Patterns (B10)
Water	Marks (B1) (Nonriver	ine)	Hydrogen Sulfide Odor (C1)		Dry-Se	ason Water Table (C2)
Sedime	ent Deposits (B2) (No	nriverine)	Oxidized Rhizospheres along Liv	ing Root	s (C3) Thin M	uck Surface (C7)
Drift De	eposits (B3) (Nonrive	rine)	Presence of Reduced Iron (C4)			h Burrows (C8)
Surface	e Soil Cracks (B6)		Recent Iron Reduction in Plowed	l Soils (C		tion Visible on Aerial Imagery (C9)
	tion Visible on Aerial I	magery (B7)	Other (Explain in Remarks)			v Aquitard (D3)
Water-	Stained Leaves (B9)				FAC-N	eutral Test (D5)
Field Obse	rvations:					
Surface Wa	iter Present? Y	es O No	Depth (inches):			
Water Table	e Present? Y	es No	Depth (inches):			
Saturation I		es No	Depth (inches):) NAV - 41 -		
	apillary fringe)	gougo moni	toring wall parial photos provious incre		nd Hydrology Pres	sent? Yes (•) No (
Describe K	ecolueu Dala (Silealli	gauge, mon	toring well, aerial photos, previous inspe	olioi 15 <i>)</i> , II	i avaliable.	
D						
Remarks:						
US Army Cor	os of Engineers					

Project/Site: Pure Water Program		City/Coun	ty:San Diego	o/San Diego	Samp	oling Date:()9	/27/20	16
Applicant/Owner: City of San Diego				State:CA	Samp	oling Point:5b		
Investigator(s):Callie Ford, Janice Wondolleck		Section, 7	Township, Rar	nge: 05, 15S, 2W		_		
Landform (hillslope, terrace, etc.):		Local reli	ef (concave, c	convex, none):Non	e	Slope	e (%):	
Subregion (LRR):C - Mediterranean California	Lat:32.9	00		Long:-117.11		 Datum	ı: -	
Soil Map Unit Name: Redding cobbly loam				NWI cla	assification:	None		
Are climatic / hydrologic conditions on the site typical for this	time of ye	ar? Yes (No ((If no, explai	- n in Remark	s.)		
		disturbed		Normal Circumstan	ces" presen	t? Yes	No	\circ
		blematic?		eded, explain any a				
SUMMARY OF FINDINGS - Attach site map sl			,			,	tures,	etc.
Hydrophytic Vegetation Present? Yes No	•							
	•	Is	the Sampled	Area				
Wetland Hydrology Present? Yes No Remarks:	•	wi	thin a Wetlan	d? Yes	0 1	No 💿		
VEGETATION								
	Absolute % Cover	Species?	t Indicator Status	Dominance Test Number of Domin				
1.Washingtonia robusta	5	No	FACW	That Are OBL, FA				(A)
2.Eucalyptus camaldulensis	10	No	FAC	Total Number of [Oominant			
3.				Species Across A		0		(B)
4.				Percent of Domina	ant Species			
Total Cover:	15 %			That Are OBL, FA			%	(A/B)
Sapling/Shrub Stratum 1.				Prevalence Index	workshee	t·		
2.				Total % Cove		Multiply	by:	
3.				OBL species		x 1 =	0	
4.				FACW species	5	x 2 =	10	
5.				FAC species	10	x 3 =	30	
Total Cover:	%		-	FACU species		x 4 =	0	
Herb Stratum				UPL species		x 5 =	0	
1.				Column Totals:	15	(A)	40	(B)
2.				Prevalence	Index = B/A	\ =	2.67	
4.				Hydrophytic Veg			2.07	
5.				Dominance T				
6.				× Prevalence Ir	ndex is ≤3.0	I		
7				Morphologica		ns¹ (Provide s a separate s		ng
8Total Cover:				Problematic I			,	ı)
Woody Vine Stratum	%							
1				¹ Indicators of hyd be present.	ric soil and	wetland hydi	ology r	must
2Total Cover:	%		_	Hydrophytic Vegetation				
% Bare Ground in Herb Stratum % Cover of	of Biotic C	rust	%_	Present?	Yes 🔘	No 💿		
Remarks:			_	<u> </u>				

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SOIL Sampling Point: 5b

Depth	scription: (Describe Matrix	to the dep		nent the indic a	ator or confirm	n the absence of inc	dicators.)
(inches)	Color (moist)	%	Color (moist)		pe ¹ Loc ²	Texture ³	Remarks
0-10	10 YR 5/3	99	10 YR 5/8	1 C	M	Loamy sand	
				· —— —			
	-	·					
	_						
	-						
1Tuno. C. (Concentration D. Don	lotion DM	Daduard Matrix	21	Dana Lining D	C. Doot Channel M	NA-Auto-
	Concentration, D=Dep				-	C=Root Channel, Man	=Matrix. Silt Loam, Silt, Loamy Sand, Sand.
	Indicators: (Applicab				Loam, Clay Loa		oblematic Hydric Soils:
Histoso		ie to all EN	Sandy Redo	•			(A9) (LRR C)
	Epipedon (A2)		Stripped Ma	` '			(A10) (LRR B)
	Histic (A3)			ky Mineral (F1))	Reduced Ve	
Hydrog	gen Sulfide (A4)		Loamy Gley	ved Matrix (F2)		Red Parent	Material (TF2)
	ed Layers (A5) (LRR (S)	Depleted M			Other (Expla	ain in Remarks)
	Muck (A9) (LRR D)			Surface (F6)			
	ed Below Dark Surface	e (A11)	1 1 '	ark Surface (F7	7)		
	Dark Surface (A12) Mucky Mineral (S1)		Vernal Pool	ressions (F8)		⁴ Indicators of by	drophytic vegetation and
I 🗀	Gleyed Matrix (S4)		Vernai i ooi	3 (1 9)		•	plogy must be present.
	Layer (if present):					1	
Type:	, (,-						
Depth (i	nches).					Hydric Soil Pres	ent? Yes No 💿
Remarks:						,	
HYDROL							
· '	ydrology Indicators:						Indicators (2 or more required)
Primary Inc	dicators (any one indic	ator is suffi	cient)			Water	Marks (B1) (Riverine)
	e Water (A1)		Salt Crust	` '			ent Deposits (B2) (Riverine)
High W	Vater Table (A2)		Biotic Crus	st (B12)		Drift De	eposits (B3) (Riverine)
Satura	tion (A3)			vertebrates (B1	,		ge Patterns (B10)
	Marks (B1) (Nonriver	,		Sulfide Odor (0			ason Water Table (C2)
	ent Deposits (B2) (No	,		•	long Living Roo	` ′ 🔲	uck Surface (C7)
	eposits (B3) (Nonrive	rine)		of Reduced Iro	,		h Burrows (C8)
	e Soil Cracks (B6)	_			Plowed Soils (tion Visible on Aerial Imagery (C9)
	tion Visible on Aerial I	magery (B	7) Uther (Exp	olain in Remark	ss)		v Aquitard (D3)
	Stained Leaves (B9)					FAC-N	eutral Test (D5)
Field Obse		_	_				
Surface Wa	ater Present? Y	es 🔘	No Depth (in	· —			
Water Tabl	e Present? Y	es 🔘	No Depth (in	ches):			
Saturation		es 🔘	No Depth (in	ches):	Wet	and Hydrology Pre	sent? Yes No
	apillary fringe) ecorded Data (stream	dande mo	nitoring well, aerial i	nhotos previou			sent: res () NO (
DOSONDO IX	July Data (Strodill	gaago, m		, providu		aranabio.	
Domorko							
Remarks:							
JS Army Cor	ps of Engineers						

Project/Site: Pure Water Program	Cit	ty/County:San D	iego/San Diego	Sampling Date: 09	/27/2016
Applicant/Owner:City of San Diego			State:CA	Sampling Point:6a	
Investigator(s):Callie Ford, Janice Wondolleck	Se	ection, Township	Range: 26, 15S, 3W		
Landform (hillslope, terrace, etc.):	Lo	ocal relief (conca	ve, convex, none):None	Slope	e (%):
Subregion (LRR):C - Mediterranean California	Lat:32.84		Long:-117.16	 Datum	n:
Soil Map Unit Name: Riverwash			NWI classi	fication: Freshwater For	ested/Shrub wetland
Are climatic / hydrologic conditions on the site typic	al for this time of year	? Yes 🕟 N	(If no, explain in	Remarks.)	
Are Vegetation Soil or Hydrology	significantly dis		are "Normal Circumstances"	present? Yes	No 🔘
Are Vegetation Soil or Hydrology	naturally proble		If needed, explain any answ		
SUMMARY OF FINDINGS - Attach site					tures. etc.
_	_				
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Yes	No 💿	Is the Sam	aled Area		
Wetland Hydrology Present? Yes (within a We		No (•)	
Remarks:		within a we	cuanu: res C) NO (G)	
VEGETATION					
		ominant Indicate		rksheet:	
Tree Stratum (Use scientific names.)	% Cover S	pecies? Status	- Number of Dominant		
1			That Are OBL, FACW	, or FAC: 0	(A)
2			Total Number of Dom		
3.			Species Across All St	rata: 0	(B)
4			Percent of Dominant	. '	
Sapling/Shrub Stratum	tal Cover: %		That Are OBL, FACW	, or FAC: 0	% (A/B)
1.			Prevalence Index wo	orksheet:	
2.			Total % Cover of	: Multiply	by:
3.			OBL species	x 1 =	0
4.			FACW species	x 2 =	0
5			FAC species	x 3 =	0
Tot Herb Stratum	al Cover: %		FACU species	x 4 =	0
1.			UPL species	x 5 =	0
2.		·	Column Totals:	(A)	0 (B)
3.			Prevalence Inde	ex = B/A =	
4.			Hydrophytic Vegeta	tion Indicators:	
5.			Dominance Test	is >50%	
6.			Prevalence Index	c is ≤3.0 ¹	
7				daptations ¹ (Provide s	
8	al Cover:			rophytic Vegetation ¹ (, I
Woody Vine Stratum	al Cover: %				
1.			¹ Indicators of hydric	soil and wetland hyd	rology must
2.			be present.		
Tot	al Cover: %		Hydrophytic Vegetation		
% Bare Ground in Herb Stratum%	% Cover of Biotic Crus	st%		'es ○ No ●	
Remarks: Data station represents the unvege	etated channel.				

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SOIL Sampling Point: <u>6a</u>

	cription: (Describe t	to the depth n			r or confirm	the absence of	of indicators.)
Depth (inches)	Matrix Color (moist)		Redo (moist)	x Features % Type ¹	Loc ²	Texture ³	Remarks
			oloi (IIIOISI)	% Type ¹			Remarks
0-8	<u>N/A</u>				!	Cobble	
0-8	10 YR 3/2	50]	Loamy sand	
	-						
¹ Type: C=C	Concentration, D=Depl	etion RM=Rec	duced Matrix.	Location: PL=Po	re Lining RC	C=Root Channe	
	•				-		am, Silt Loam, Silt, Loamy Sand, Sand.
	Indicators: (Applicabl						or Problematic Hydric Soils:
Histoso		,	Sandy Redo	•			uck (A9) (LRR C)
Histic E	pipedon (A2)		Stripped M	atrix (S6)		2 cm Mu	uck (A10) (LRR B)
Black F	listic (A3)		Loamy Mud	cky Mineral (F1)		Reduce	d Vertic (F18)
Hydrog	en Sulfide (A4)			yed Matrix (F2)			rent Material (TF2)
	ed Layers (A5) (LRR C	;)	Depleted M			Other (E	Explain in Remarks)
	luck (A9) (LRR D)	(4.44)		Surface (F6)			
·	ed Below Dark Surface	e (A11)		ark Surface (F7)			
	Oark Surface (A12) Mucky Mineral (S1)		Vernal Poo	ressions (F8)		⁴ Indicators o	f hydrophytic vegetation and
I 🗀	Gleyed Matrix (S4)		Vernai F00	15 (1-9)			nydrology must be present.
	Layer (if present):					Wottand I	ryarology mast 20 procent.
Type:	Layor (ii procont).						
Depth (ir	ochos):		_			Hydric Soil F	Present? Yes No No
Remarks:						Tiyunc 30ii i	resent: res No (
Remarks.							
HYDROLO	OGY						
Wetland Hy	/drology Indicators:					Second	dary Indicators (2 or more required)
_	icators (any one indica	ator is sufficient	F)			· · · · · · · · · · · · · · · · · · ·	ater Marks (B1) (Riverine)
	• •	ator is sufficient	•	(D44)		⊔	
	e Water (A1)		Salt Crust Biotic Cru	` '		H 5.	diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine)
	ater Table (A2)			, ,		<u> </u>	ainage Patterns (B10)
	ion (A3) Marks (B1) (Nonriveri	ma\	·	vertebrates (B13) Sulfide Odor (C1)			y-Season Water Table (C2)
🗀	ent Deposits (B2) (Nor	,		Rhizospheres alon	a Livina Boot		in Muck Surface (C7)
				of Reduced Iron (C	_		ayfish Burrows (C8)
	eposits (B3) (Nonriver e Soil Cracks (B6)	me)		on Reduction in Pla	,		turation Visible on Aerial Imagery (C9)
	tion Visible on Aerial I	magany (P7)			wed Solis (C	, m	
🗀	Stained Leaves (B9)	nagery (b7)	Other (Ex	plain in Remarks)			allow Aquitard (D3) C-Neutral Test (D5)
Field Obse	, ,						C-Neutral Test (D3)
		ne O No 4	Donth /:-	chos):			
		es No (~	· —			
Water Table		es O No (· —			
Saturation F	Present? Ye apillary fringe)	es O No (Depth (in	ches):	Wetla	and Hydrology	Present? Yes No
	ecorded Data (stream	gauge, monito	ring well. aerial	photos, previous ir			riodelli ree () ite ()
	(33.,	3 , , , , ,	,, ,	-1,,,		
Remarks:							
rtomanto.							
US Army Corr	os of Engineers						

Project/Site: Pure Water Program		City/Cour	ty:San Diego	o/San Diego	Sam	pling Date:	09/27/20	16
Applicant/Owner: City of San Diego				State:CA	Sam	pling Point:	5b	
Investigator(s):Callie Ford, Janice Wondolleck		Section,	Γownship, Ra	nge: 26, 15S, 3W		-		
Landform (hillslope, terrace, etc.):		Local rel	ef (concave,	convex, none):None	e	Slo	ope (%):	
Subregion (LRR):C - Mediterranean California	Lat:32.8	34		Long:-117.16		 Dati	ım:	
Soil Map Unit Name: Riverwash				NWI cla	assification:	None		
Are climatic / hydrologic conditions on the site typical for this	time of ye	ear? Yes	No ((If no, explain	n in Remarl	ks.)		
		disturbed		Normal Circumstan	ces" preser	nt? Yes 🕡) No	\circ
		oblematic?		eded, explain any a				
SUMMARY OF FINDINGS - Attach site map sl			,				atures,	etc.
Hydrophytic Vegetation Present? Yes No								
	•	Is	the Sampled	Area				
Wetland Hydrology Present? Yes No Remarks:	•	wi	thin a Wetlar	nd? Yes	0	No 💿		
VEGETATION								
1	Absolute		t Indicator	Dominance Test	worksheet	::		
	% Cover	Species'		Number of Domin			_	(4)
1.Platanus racemosa	50	Yes Yes	FAC	That Are OBL, FA	Cvv, or FA	U :	2	(A)
2.Salix laevigata 3.Quercus agrifolia	35	No	FACW Not Listed	Total Number of E		,	2	(D)
4.			- Not Elsted	Species Across A	ıı Sırata.		2	(B)
Total Cover:	88 %		_	Percent of Domina That Are OBL, FA		_	0.0 %	(A/B)
Sapling/Shrub Stratum	20	N T						` '
1.Baccharis salicifolia	20	No	FAC	Total % Cove		et: Multip	dy by:	
2.Toxicodendron diversilobum	5	No No	FACU	OBL species	1 01.	x 1 =	0	-
3. Cyperus eragrostis 4.	3	<u>NO</u>	FACW	FACW species	50	x 2 =	100	
5.			_	FAC species	70	x 3 =	210	
Total Cover:	26 %			FACU species	1	x 4 =	4	
Herb Stratum	20 /			UPL species	3	x 5 =	15	
1. Juncus mexicanus	10	No	FACW	Column Totals:	124	(A)	329	(B)
2.				Prevalence	Index - B/	۸ _	2 65	
3.				Hydrophytic Veg			2.65	
4.			_	➤ Dominance T				
5. 6.				× Prevalence Ir				
7.				Morphologica	l Adaptation	ns¹ (Provide		ng
8.			_			n a separate	. '	,
Total Cover:	10 %			Problematic F	Hydropnytic	vegetation	(Explain)
Woody Vine Stratum				¹ Indicators of hyd	ric soil and	wetland h	vdrology i	must
1			_	be present.	ne son and	wettand n	raiology i	iiust
Total Cover:	%		-	Hydrophytic Vegetation				
% Bare Ground in Herb Stratum50 %	of Biotic C	Crust	%	Present?	Yes	No ()	
Remarks:				L				

SOIL Sampling Point: 6b

Depth (inches)	Matrix		Redox Features		the absence of indic	
(IIICHES)	Color (moist)	% C	folor (moist) % Type ¹	Loc ²	Texture ³	Remarks
0-8	10 YR 4/3	100			Sand	
	- 10 111 110					
	-					
	-					
	-					
1T C. C		DM Daa	hand Matrix 21 and in DI Dan		Dest Observat M. M.	-12.
	Concentration, D=Dep		am, Sandy Clay Loam, Sandy Loam,	-	C=Root Channel, M=Ma	
			inless otherwise noted.)	Clay Luai	Indicators for Proble	_
Histoso		ie to ali EKKS, u	Sandy Redox (S5)		1 cm Muck (A9	-
	pipedon (A2)	Ĺ	Stripped Matrix (S6)		2 cm Muck (A1	, (,
Black H	listic (A3)	Ī	Loamy Mucky Mineral (F1)		Reduced Vertic	
	en Sulfide (A4)	Ī	Loamy Gleyed Matrix (F2)		Red Parent Ma	, ,
	ed Layers (A5) (LRR C	3)	Depleted Matrix (F3)		Other (Explain	in Remarks)
	uck (A9) (LRR D)	- (0.4.4)	Redox Dark Surface (F6)			
	ed Below Dark Surface Park Surface (A12)	e (ATT)	Depleted Dark Surface (F7) Redox Depressions (F8)			
	Mucky Mineral (S1)	l I	Vernal Pools (F9)		⁴ Indicators of hydro	phytic vegetation and
	Gleyed Matrix (S4)	L			•	gy must be present.
	Layer (if present):					<u> </u>
Type:Ro	ocks					
Depth (ir			_		Hydric Soil Present	? Yes (No ()
Remarks:	<u> </u>					
HYDROLO					0	'(O
-	/drology Indicators:					icators (2 or more required)
	icators (any one indic	ator is sufficient				rks (B1) (Riverine)
	e Water (A1)		Salt Crust (B11)			
High W	ater Table (A2)		` ′			Deposits (B2) (Riverine)
= ~-44			Biotic Crust (B12)		Drift Depo	sits (B3) (Riverine)
	ion (A3)	in a)	Biotic Crust (B12) Aquatic Invertebrates (B13)		Drift Depo	sits (B3) (Riverine) Patterns (B10)
Water N	ion (A3) Marks (B1) (Nonriver i	,	Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	iving Poot	Drift Depo	sits (B3) (Riverine) Patterns (B10) on Water Table (C2)
Water M	ion (A3) Marks (B1) (Nonriver i ent Deposits (B2) (No i	nriverine)	Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along I	•	Drift Depo Drainage Dry-Seaso ts (C3) Thin Muck	sits (B3) (Riverine) Patterns (B10) on Water Table (C2) s Surface (C7)
Water M Sedime Drift De	ion (A3) Marks (B1) (Nonriver i ent Deposits (B2) (No eposits (B3) (Nonrive r	nriverine)	Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along I Presence of Reduced Iron (C4)	Drift Depo Drainage Dry-Seaso ts (C3) Thin Muck	sits (B3) (Riverine) Patterns (B10) on Water Table (C2) Surface (C7) surrows (C8)
Water M Sedime Drift De Surface	ion (A3) Marks (B1) (Nonriver ient Deposits (B2) (Nonriver eposits (B3) (Nonriver e Soil Cracks (B6)	nriverine) rine)	Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along I Presence of Reduced Iron (C4 Recent Iron Reduction in Plow)	Drift Depo Drainage Dry-Seaso ts (C3) Thin Muck Crayfish E Saturation	sits (B3) (Riverine) Patterns (B10) on Water Table (C2) s Surface (C7) eurrows (C8) Visible on Aerial Imagery (C9)
Water M Sedime Drift De Surface Inundat	ion (A3) Marks (B1) (Nonriver ient Deposits (B2) (Non eposits (B3) (Nonriver e Soil Cracks (B6) tion Visible on Aerial I	nriverine) rine)	Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along I Presence of Reduced Iron (C4)	Drift Depo Drainage Dry-Seaso ts (C3) Thin Muck Crayfish E Saturation Shallow A	sits (B3) (Riverine) Patterns (B10) on Water Table (C2) s Surface (C7) surrows (C8) Visible on Aerial Imagery (C9) quitard (D3)
Water M Sedime Drift De Surface Inundat Water-S	ion (A3) Marks (B1) (Nonriver ient Deposits (B2) (Nonriver e Soil Cracks (B6) tion Visible on Aerial I Stained Leaves (B9)	nriverine) rine)	Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along I Presence of Reduced Iron (C4 Recent Iron Reduction in Plow)	Drift Depo Drainage Dry-Seaso ts (C3) Thin Muck Crayfish E Saturation Shallow A	sits (B3) (Riverine) Patterns (B10) on Water Table (C2) s Surface (C7) eurrows (C8) Visible on Aerial Imagery (C9)
Water M Sedime Drift De Surface Inundat Water-S	ion (A3) Marks (B1) (Nonriveriant Deposits (B2) (Nonriveriant Social Cracks (B6) tion Visible on Aerial I Stained Leaves (B9) rvations:	nriverine) rine) magery (B7)	Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along I Presence of Reduced Iron (C4 Recent Iron Reduction in Plow Other (Explain in Remarks))	Drift Depo Drainage Dry-Seaso ts (C3) Thin Muck Crayfish E Saturation Shallow A	sits (B3) (Riverine) Patterns (B10) on Water Table (C2) s Surface (C7) surrows (C8) Visible on Aerial Imagery (C9) quitard (D3)
Water M Sedime Drift De Surface Inundat Water-S Field Obset	ion (A3) Marks (B1) (Nonriverient Deposits (B2) (Nonriverient Soil Cracks (B6) tion Visible on Aerial I Stained Leaves (B9) rvations: ter Present?	mriverine) rine) magery (B7) es No (e	Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along I Presence of Reduced Iron (C4 Recent Iron Reduction in Plow Other (Explain in Remarks) Depth (inches):)	Drift Depo Drainage Dry-Seaso ts (C3) Thin Muck Crayfish E Saturation Shallow A	sits (B3) (Riverine) Patterns (B10) on Water Table (C2) s Surface (C7) surrows (C8) Visible on Aerial Imagery (C9) quitard (D3)
Water M Sedime Drift De Surface Inundat Water-S Field Obse Surface Wa Water Table	ion (A3) Marks (B1) (Nonriveriant Deposits (B2) (Nonriveriant Deposits (B3) (Nonriveriant Solid Procession (B6) (Incomplete Soil Cracks (B6) (Incomplete Solid Cracks (B6) (Incomplete Solid Procession (B9) (Incomplete Solid Procession (B9) (Incomplete Pro	rine) Imagery (B7) Ses No (6) Ses No (6)	Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along I Presence of Reduced Iron (C4 Recent Iron Reduction in Plow Other (Explain in Remarks) Depth (inches): Depth (inches):)	Drift Depo Drainage Dry-Seaso ts (C3) Thin Muck Crayfish E Saturation Shallow A	sits (B3) (Riverine) Patterns (B10) on Water Table (C2) s Surface (C7) surrows (C8) Visible on Aerial Imagery (C9) quitard (D3)
Water M Sedime Drift De Surface Inundat Water-S Field Obset Surface Water Table Saturation F	ion (A3) Marks (B1) (Nonriveriant Deposits (B2) (Nonriveriant Deposits (B3) (Nonriveriant Solid Processor (B6) (Nonriveriant Present? Present? Marks (B1) (Nonriveriant Processor (B2) (Nonriveriant Processor (B6) (Nonriveriant Processor (B9) (Nonr	mriverine) rine) magery (B7) es No (e	Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along I Presence of Reduced Iron (C4 Recent Iron Reduction in Plow Other (Explain in Remarks) Depth (inches): Depth (inches):) ed Soils (C	Drift Depo Drainage Dry-Seaso ts (C3) Thin Muck Crayfish E Saturation Shallow A	sits (B3) (Riverine) Patterns (B10) on Water Table (C2) s Surface (C7) surrows (C8) Visible on Aerial Imagery (C9) quitard (D3) ral Test (D5)
Water M Sedime Drift De Surface Inundat Water-S Field Obset Surface Water Table Saturation F (includes ca	ion (A3) Marks (B1) (Nonriveriant Deposits (B2) (Nonriveriant Deposits (B3) (Nonriveriant Stained Leaves (B6) (Stained Leaves (B9) (Present? Yersent? Yersent? Yersent? Yersent? Yersent?	magery (B7) magery (B7) magery No (continue) magery No (continue)	Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along I Presence of Reduced Iron (C4 Recent Iron Reduction in Plow Other (Explain in Remarks) Depth (inches): Depth (inches):) ed Soils (C	Drift Depo Drainage Dry-Seaso ts (C3) Thin Muck Crayfish B Saturation Shallow A FAC-Neut	sits (B3) (Riverine) Patterns (B10) on Water Table (C2) s Surface (C7) surrows (C8) Visible on Aerial Imagery (C9) quitard (D3) ral Test (D5)
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Project/Site: Pure Water Program		City/Coun	ty:San Dieg	o/San Diego	Sam	pling Date:()	9/27/20	16
Applicant/Owner: City of San Diego				State:CA	Sam	pling Point:6	ic	
Investigator(s):Callie Ford, Janice Wondolleck		Section, 7	Township, Ra	nge: 26, 15S, 3W		_		
Landform (hillslope, terrace, etc.):		Local reli	ef (concave,	convex, none):Non	e	Slo	pe (%):	
Subregion (LRR):C - Mediterranean California	Lat:32.8	34		Long:-117.16		 Datu	m:	
Soil Map Unit Name: Riverwash				NWI cla	assification	None		
Are climatic / hydrologic conditions on the site typical for this	time of ye	ear? Yes (No ((If no, explain	n in Remar	ks.)		
		disturbed		'Normal Circumstan	ces" presei	nt? Yes	No	\circ
		oblematic?		eeded, explain any a				
SUMMARY OF FINDINGS - Attach site map s			,			•	atures,	etc.
Hydrophytic Vegetation Present? Yes No	•							
	•	Is	the Sampled	l Area				
Wetland Hydrology Present? Yes No	•		thin a Wetlaı		0	No 💿		
Remarks: Data Station taken within area mapped as S	outhern S	Sycamore	e-Alder Rip	arian Woodland.				
VEGETATION								
	Absolute		t Indicator	Dominance Test	workshee	t:		
1.Salix lasiolepis	% Cover 40	Species? Yes	Status FACW	Number of Domin That Are OBL, FA				(A)
2.Quercus agrifolia	30	Yes	Not Listed	-		C: 1		(A)
3.			- Not Listed	Total Number of E Species Across A		3		(B)
4.				-				(D)
Total Cover:	70 %		_	 Percent of Domina That Are OBL, FA 		_	.3 %	(A/B)
Sapling/Shrub Stratum	, 0						.5 %	(700)
1. Toxicodendron diversilobum	50	Yes	FACU	Prevalence Index				
2-Baccharis sarothroides	<1	No	FACU	Total % Cove	r of:	Multipl		-
3. Artemisia dracunculus	<1	No	Not Listed	OBL species	40	x 1 =	0	
4				FACW species FAC species	40	x 2 = x 3 =	80	
5Total Cover:	50 %			FACU species	50	x 4 =	200	
Herb Stratum	30 %			UPL species	30	x 5 =	150	
1.				Column Totals:	120	(A)	430	(B)
2.				Column Totals.	120	(71)	T30	(-)
3.				Prevalence			3.58	
4.				Hydrophytic Veg				
5.				Dominance T				
6				Prevalence Ir			ou no orti	n.a
7				Morphologica data in Re		ns (Provide n a separate		ng
8.			_	Problematic I	Hydrophytic	Vegetation ¹	(Explain	1)
Total Cover: Woody Vine Stratum	%							
1			_	¹ Indicators of hyd	ric soil and	wetland hy	drology 1	must
2				be present.				
Total Cover:	%			Hydrophytic Vegetation				
% Bare Ground in Herb Stratum % % Cover	of Biotic C	Crust	%	Present?	Yes 🔘	No 🕡)	
Remarks:								

SOIL Sampling Point: 6c

Depth	Matrix			Featur					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Text	ıre ³	Remarks
0-8	N/A						Cobble		
0-8	10 YR 4/4	80					Sandy lo	am	
6-8	10 YR 4/4	80	7.5 YR 5/8	<1	C	<u>M</u>	Sandy lo	am	
	Concentration, D=Dep					e Lining, R			
					andy Loan	n, Clay Loa			n, Silt Loam, Silt, Loamy Sand, Sand.
Hydric Soil Histoso	Indicators: (Applicab	le to all LRI	Rs, unless otherwise Sandy Redox	•					Problematic Hydric Soils: ((A9) (LRR C)
	Epipedon (A2)		Stripped Ma	` ')				(A10) (LRR B)
	Histic (A3)		Loamy Muc	` '					/ertic (F18)
	gen Sulfide (A4)		Loamy Gley						nt Material (TF2)
	ed Layers (A5) (LRR (C)	Depleted Ma					Other (Exp	plain in Remarks)
	luck (A9) (LRR D) ed Below Dark Surfac	e (A11)	Redox Dark Depleted Da		` '				
	Dark Surface (A12)	0 (/ ())	Redox Depr						
	Mucky Mineral (S1)		Vernal Pool						ydrophytic vegetation and
	Gleyed Matrix (S4)						W	etland hyd	drology must be present.
	Layer (if present):								
Type: Depth (ii	nohoo):						Uvdei	o Soil Bro	esent? Yes No (•)
Remarks:							пушт	Soli Fie	sentr res No (
rtomanto.									
IVDDOL 6	201								
								0	
Wetland Hy	ydrology Indicators:		ariand)						y Indicators (2 or more required)
Wetland Hy	ydrology Indicators: licators (any one indic			(P11)				Wate	r Marks (B1) (Riverine)
Wetland Hy Primary Ind Surface	ydrology Indicators: licators (any one indic e Water (A1)		Salt Crust	` '				Wate Sedir	r Marks (B1) (Riverine) nent Deposits (B2) (Riverine)
Wetland Hy Primary Ind Surface High W	ydrology Indicators: licators (any one indic e Water (A1) /ater Table (A2)		Salt Crust Biotic Crus	t (B12)	tes (B13)			Wate Sedir Drift I	r Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine)
Wetland Hy Primary Ind Surface High W Saturat	ydrology Indicators: licators (any one indic e Water (A1)	ator is suffi	Salt Crust	t (B12) vertebra	` ,			Wate Sedir Drift I	r Marks (B1) (Riverine) nent Deposits (B2) (Riverine)
Wetland Hy Primary Ind Surface High W Saturat Water I	ydrology Indicators: licators (any one indic e Water (A1) /ater Table (A2) tion (A3)	ator is suffi	Salt Crust Biotic Crust Aquatic Inv	t (B12) vertebra Sulfide (Odor (C1)	Living Ro		Wate Sedir Drift I Drain Dry-S	r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime	ydrology Indicators: licators (any one indic e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver	ator is suffi ine) nriverine)	Salt Crust Biotic Crust Aquatic Inv	t (B12) vertebra Sulfide (thizosph	Odor (C1) eres along	_		Wate Sedir Drift I Drain Dry-S Thin	r Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Season Water Table (C2)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De	ydrology Indicators: licators (any one indicate Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (Noneposits (B3) (Nonriver en Soil Cracks (B6)	ator is suffi ine) nriverine) rine)	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence of	et (B12) vertebra Sulfide (thizosph of Reduce	Odor (C1) heres along ced Iron (C ction in Ploy	4)	ots (C3)	Wate Sedir Drift I Drain Dry-S Thin Crayf Satur	r Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Season Water Table (C2) Muck Surface (C7) iish Burrows (C8) ation Visible on Aerial Imagery (C9)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface Inunda	ydrology Indicators: licators (any one indicate Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverent Deposits (B2) (Nonriveres Soil Cracks (B6) tion Visible on Aerial I	ator is suffi ine) nriverine) rine)	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence of	et (B12) vertebra Sulfide (thizosph of Reduce	Odor (C1) heres along ced Iron (C ction in Ploy	4)	ots (C3)	Wate Sedir Drift I Drain Dry-S Thin Crayf Satur Shall	r Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Deason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aquitard (D3)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface Inundat Water-	ydrology Indicators: licators (any one indice e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (Nonriver eposits (B3) (Nonriver e Soil Cracks (B6) tion Visible on Aerial I Stained Leaves (B9)	ator is suffi ine) nriverine) rine)	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence of	et (B12) vertebra Sulfide (thizosph of Reduce	Odor (C1) heres along ced Iron (C ction in Ploy	4)	ots (C3)	Wate Sedir Drift I Drain Dry-S Thin Crayf Satur Shall	r Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Season Water Table (C2) Muck Surface (C7) iish Burrows (C8) ation Visible on Aerial Imagery (C9)
Wetland Hy Primary Ind Surface High W Satural Water I Sedime Drift De Surface Inunda Water-i	ydrology Indicators: licators (any one indice Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (None eposits (B3) (Nonriver e Soil Cracks (B6) tion Visible on Aerial I Stained Leaves (B9) ervations:	ine) nriverine) rine) magery (B	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Other (Exp	ct (B12) vertebra Sulfide (thizosph of Reduc n Reduc lain in F	Odor (C1) heres along ced Iron (C ction in Ploy	4)	ots (C3)	Wate Sedir Drift I Drain Dry-S Thin Crayf Satur Shall	r Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Deason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aquitard (D3)
Primary Ind Surface High W Saturat Water I Sedime Drift De Surface Inunda Water-Field Obse	ydrology Indicators: licators (any one indicate Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverent Deposits (B2) (Nonriverent Deposits (B3) (Nonriverent Deposits (B6)) tion Visible on Aerial I Stained Leaves (B9) ervations: ater Present?	ine) nriverine) rine) magery (B	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Other (Exp	ot (B12) vertebra Sulfide (thizosph of Reduc n Reduc lain in F	Odor (C1) heres along ced Iron (C ction in Ploy	4)	ots (C3)	Wate Sedir Drift I Drain Dry-S Thin Crayf Satur Shall	r Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Deason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aquitard (D3)
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Wetland Hy Primary Ind Surface High W Saturat Sedime Drift De Surface Inunda Water- Field Obse Surface Water Table Saturation I (includes ca	ydrology Indicators: licators (any one indicated water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverent Deposits (B2) (Nonriverent Deposits (B3) (Nonriverent Deposits (B6)) tion Visible on Aerial I Stained Leaves (B9) ervations: ater Present? Present? Present? yapillary fringe)	ine) nriverine) rine) magery (Bi	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Other (Exp No Depth (inc	ort (B12) vertebra Sulfide (thizosph of Reduce on Reduce clain in F	Odor (C1) heres along ced Iron (C ttion in Plot Remarks)	4) wed Soils (ots (C3) (C6)	Wate Sedir Drift I Drain Dry-S Thin Crayf Satur Shall FAC-	r Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Geason Water Table (C2) Muck Surface (C7) iish Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aquitard (D3) Neutral Test (D5)
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Project/Site: Pure Water Program		City/Count	y:San Dieg	go/San Diego	Sam	pling Date:()	9/27/20	16
Applicant/Owner: City of San Diego				State:CA	Sam	pling Point:6	d	
Investigator(s):Callie Ford, Janice Wondolleck		Section, T	ownship, Ra	ange: 26, 15S, 3W		_		
Landform (hillslope, terrace, etc.):		Local relie	ef (concave,	convex, none): Non	ie	Slop	oe (%):	
Subregion (LRR):C - Mediterranean California	Lat:32.8	84		Long:-117.16		 Datui	m:	
Soil Map Unit Name: Riverwash				NWI cl	assification	None		
Are climatic / hydrologic conditions on the site typical for this	time of ye	ear? Yes	No ((If no, explain	in in Remar	ks.)		
		disturbed?		"Normal Circumstar			No	\circ
	,	oblematic?		eeded, explain any a				
SUMMARY OF FINDINGS - Attach site map si			,			,	atures,	etc.
	•							
	•	ls t	he Sample	d Area				
	•		hin a Wetla			No 💿		
Remarks: Data Station taken within area mapped as S	outhern	Sycamore	-Alder Rip	arian Woodland				
VECETATION								
VEGETATION	N I I - 1 -	Danisa	La Pastan	I Dami'n and Tark				
·	Absolute % Cover	Species?	Indicator Status	Number of Domir				
1 Quercus agrifolia	10	No	Not Listed	That Are OBL, FA				(A)
2.				- _ Total Number of Ⅰ	Dominant			
3.				Species Across A		2		(B)
4.				Percent of Domin	ant Species	,		
Total Cover:	10 %			That Are OBL, FA		_) % ((A/B)
Sapling/Shrub Stratum	25	Vac	EA CH	Prevalence Inde	v worksho	at·		
1.Baccharis sarothroides	25	Yes No	FACU Not Listed	Total % Cove		Multiply	, bv.	
2-Acmispon glaber 3-Eriogonum fasciculatum	1	No	Not Listed Not Listed	OBL species	51 01.	x 1 =	0	
4.	1	110	Not Listed	FACW species		x 2 =	0	
5.				FAC species		x 3 =	0	
Total Cover:	27 %			FACU species	35	x 4 =	140	
Herb Stratum				UPL species	12	x 5 =	60	
1-Ambrosia psilostachya	10	Yes	FACU	Column Totals:	47	(A)	200	(B)
2				Dravalance	Indox D/	٨	1.00	
3.				Prevalence Hydrophytic Veg			4.26	
4.				Dominance				
5				Prevalence I				
6. 7.			-	Morphologica			supportir	ng
8.						n a separate		J
Total Cover:	10 %			- Problematic	Hydrophytic	: Vegetation ¹	(Explain)
Woody Vine Stratum	10 %							
1				Indicators of hyden be present.	dric soil and	l wetland hyd	drology n	nust
2				_				
Total Cover:	%			Hydrophytic Vegetation				
% Bare Ground in Herb Stratum % % Cover	of Biotic C	Crust	%	Present?	Yes 🔘	No 💿		
Remarks:								

SOIL

Sampling Point: 6d

Sampling Point: 6d

Depth (inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture ³	<u> </u>	Remark	S
0-2	10 YR 3/2	100					Sandy loam			
	-									
	_									
	_									
	-									
	Concentration, D=Dep					_		nnel, M=Mat		Cond Co.
	res: Clay, Silty Clay,				idy Loam,	Clay Loa				
	I Indicators: (Applicate of (A1)	DIE to all LRR	s, unless otherwis	-				r s for Proble r n Muck (A9) (natic Hydric Soils) :
	Epipedon (A2)		Stripped M	` '				n Muck (A9) (
	Histic (A3)			cky Mineral	(F1)			uced Vertic (` '	
	gen Sulfide (A4)			eyed Matrix (. ,			Parent Mate		
	ed Layers (A5) (LRR	C)	Depleted N		,		Othe	er (Explain in	Remarks)	
	Muck (A9) (LRR D)		Redox Da	rk Surface (F	- 6)					
	ted Below Dark Surfac	ce (A11)		Dark Surface	. ,					
	Dark Surface (A12)			pressions (F	8)		4			
	Mucky Mineral (S1)		Vernal Poo	ols (F9)				, ,	nytic vegetation a	
	Gleyed Matrix (S4)						wetla	nd hydrology	must be present	
	e Layer (if present):									
Type:Re	ock									
									_	_
	inches):2						Hydric So	oil Present?	Yes 🔘	No 💿
Depth (i Remarks:	inches):2						Hydric So	oil Present?	Yes 🔘	No 💿
<u> </u>	inches):2						Hydric So	oil Present?	Yes 🔿	No 💿
<u> </u>	inches): <u>2</u>						Hydric So	oil Present?	Yes 🔿	No 💿
Remarks:	· · ·						Hydric So	oil Present?	Yes	No (•
Remarks:	OGY						· ·		<u> </u>	
Remarks: YDROL Vetland H	OGY lydrology Indicators:		.:4)				· ·	condary Indic	ators (2 or more	required)
YDROLO Wetland H Primary Inc	OGY lydrology Indicators: dicators (any one indic						· ·	condary Indic Water Mark	ators (2 or more s (B1) (Riverine)	required)
YDROLO Vetland H Primary Inc	OGY lydrology Indicators: dicators (any one indicate Water (A1)		Salt Crus	` '			· ·	condary Indic Water Mark Sediment D	ators (2 or more s (B1) (Riverine) eposits (B2) (Riv	required) erine)
YDROLO Vetland H Primary Inc Surfac High V	OGY Iydrology Indicators: dicators (any one indicate Water (A1) Vater Table (A2)		Salt Crus	ust (B12)			· ·	condary Indic Water Mark Sediment D Drift Deposi	ators (2 or more s (B1) (Riverine) eposits (B2) (Riv ts (B3) (Riverine	required) erine)
YDROLO Wetland H Primary Inc Surfac High V Satura	OGY Iydrology Indicators: dicators (any one indicators (A1) Vater Table (A2) ation (A3)	cator is suffic	Salt Crus Biotic Cru Aquatic I	ust (B12) nvertebrates	, ,		· ·	condary Indic Water Mark Sediment D Drift Deposi Drainage Pa	ators (2 or more s (B1) (Riverine) eposits (B2) (Riv ts (B3) (Riverine atterns (B10)	required) erine)
YDROLO Wetland H Primary Inc Surfac High V Satura Water	OGY Iydrology Indicators: dicators (any one indicators (any one indicators) Ee Water (A1) Vater Table (A2) Ation (A3) Marks (B1) (Nonriver)	cator is suffic	Salt Crus Biotic Cru Aquatic II Hydroger	ust (B12) nvertebrates n Sulfide Odd	or (C1)		Sec	condary Indic Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season	ators (2 or more s (B1) (Riverine) eposits (B2) (Riverine atterns (B10) Water Table (C2	required) erine)
YDROLO Vetland H Primary Inc Surfac High V Satura Water Sedim	OGY Iydrology Indicators: dicators (any one indicators (A1) Vater Table (A2) ation (A3) Marks (B1) (Nonriversent Deposits (B2) (No	cator is suffic rine) onriverine)	Salt Crus Biotic Cru Aquatic II Hydroger Oxidized	ust (B12) nvertebrates n Sulfide Odd Rhizosphere	or (C1) es along L	_	Sec	condary Indic Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S	ators (2 or more s (B1) (Riverine) eposits (B2) (Riverine ts (B3) (Riverine atterns (B10) Water Table (C2 Gurface (C7)	required) erine)
YDROLO Wetland H Primary Inc Surfac High V Satura Water Sedim Drift D	OGY Iydrology Indicators: dicators (any one indicate Water (A1) Vater Table (A2) ation (A3) Marks (B1) (Nonriversent Deposits (B2) (Norriverseposits (B3) (Nonriverseposits (B3) (Nonr	cator is suffic rine) onriverine)	Salt Crus Biotic Cru Aquatic II Hydroger Oxidized Presence	ust (B12) nvertebrates n Sulfide Odd Rhizosphere e of Reduced	or (C1) es along L d Iron (C4)	Sec	condary Indic Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu	ators (2 or more s (B1) (Riverine) eposits (B2) (Riverine ts (B3) (Riverine atterns (B10) Water Table (C2 Surface (C7) rrows (C8)	required) erine))
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YDROLO Vetland H Primary Inc Surfac High V Satura Water Sedim Drift D Surfac	OGY Ilydrology Indicators: dicators (any one indicators (any one indicators) Ee Water (A1) Vater Table (A2) Ation (A3) Marks (B1) (Nonriverse (B2) (Nonriverse (B3) (Nonriverse (B6)) Ee Soil Cracks (B6) Ation Visible on Aerial	cator is suffic rine) porriverine) erine)	Salt Crus Biotic Cru Aquatic II Hydroger Oxidized Presence Recent Ir	ust (B12) nvertebrates n Sulfide Odd Rhizosphere e of Reduced	or (C1) es along L d Iron (C4) n in Plow)	Sec	condary Indic Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu Saturation \ Shallow Aqu	ators (2 or more s (B1) (Riverine) eposits (B2) (Riverine atterns (B10) Water Table (C2 Surface (C7) rrows (C8) /isible on Aerial Indiator (D3)	required) erine))
YDROLO Wetland H Primary Inc Surfac High V Satura Water Sedim Drift D Surfac Inunda Water-	OGY Iydrology Indicators: dicators (any one indicators (any one indicators) Water (A1) Vater Table (A2) Wation (A3) Marks (B1) (Nonriverse (B2) (Nonriverse (B3) (Nonriverse (B3) (Nonriverse (B3) (Nonriverse (B3) (Nonriverse (B4) (Nonriverse (B	cator is suffic rine) porriverine) erine)	Salt Crus Biotic Cru Aquatic II Hydroger Oxidized Presence Recent Ir	ust (B12) nvertebrates n Sulfide Odo Rhizosphere e of Reduced on Reduction	or (C1) es along L d Iron (C4) n in Plow)	Sec	Condary Indic Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu Saturation N	ators (2 or more s (B1) (Riverine) eposits (B2) (Riverine atterns (B10) Water Table (C2 Surface (C7) rrows (C8) /isible on Aerial Indiator (D3)	required) erine))
YDROLO Wetland H Primary Inc Surfac High V Satura Water Sedim Drift D Surfac Inunda Water- Field Obse	OGY Iydrology Indicators: dicators (any one indicators (any one indicators) Water (A1) Vater Table (A2) Aution (A3) Marks (B1) (Nonriversity (B2) (Nonriversity (B3)) Monriversity (B3) (Nonriversity (B4)) Water Soil Cracks (B6) Water Soil Cracks (B6) Water Soil Cracks (B9) Water Soil Cracks (B9) Water Soil Cracks (B9)	cator is sufficience) contiverine) erine) Imagery (B7	Salt Crus Biotic Cru Aquatic II Hydroger Oxidized Presence Recent Ir Other (Ex	ust (B12) nvertebrates n Sulfide Odd Rhizosphere e of Reduced on Reduction kplain in Ren	or (C1) es along L d Iron (C4) n in Plow)	Sec	condary Indic Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu Saturation \ Shallow Aqu	ators (2 or more s (B1) (Riverine) eposits (B2) (Riverine atterns (B10) Water Table (C2 Surface (C7) rrows (C8) /isible on Aerial Indiator (D3)	required) erine))
YDROLO Wetland H Primary Inc Surfac High V Satura Water Sedim Drift D Surfac Inunda Water- Field Obse	OGY Iydrology Indicators: dicators (any one indicators (any one indicators) Water (A1) Vater Table (A2) Aution (A3) Marks (B1) (Nonriversity (B2) (Nonriversity (B3)) Monriversity (B3) (Nonriversity (B4)) Water Soil Cracks (B6) Water Soil Cracks (B6) Water Soil Cracks (B9) Water Soil Cracks (B9) Water Soil Cracks (B9)	cator is sufficience) contiverine) erine) Imagery (B7	Salt Crus Biotic Cru Aquatic II Hydroger Oxidized Presence Recent Ir	ust (B12) nvertebrates n Sulfide Odd Rhizosphere e of Reduced on Reduction kplain in Ren	or (C1) es along L d Iron (C4) n in Plow)	Sec	condary Indic Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu Saturation \ Shallow Aqu	ators (2 or more s (B1) (Riverine) eposits (B2) (Riverine atterns (B10) Water Table (C2 Surface (C7) rrows (C8) /isible on Aerial Indiator (D3)	required) erine))
YDROLO Wetland H Primary Inc Surfac High V Satura Water Sedim Drift D Surfac Inunda Water- Field Obse	DGY Iydrology Indicators: dicators (any one indicators (any one indicators) Water (A1) Vater Table (A2) Ation (A3) Marks (B1) (Nonriverse) Water (B3) (Nonriverse) Water (B3) (Nonriverse) Water (B3) (Nonriverse) Water (B4)	cator is sufficient. rine) priverine) erine) Imagery (B7	Salt Crus Biotic Cru Aquatic II Hydroger Oxidized Presence Recent Ir Other (Ex	ust (B12) nvertebrates n Sulfide Odo Rhizosphere e of Reduced on Reduction xplain in Ren	or (C1) es along L d Iron (C4) n in Plow)	Sec	condary Indic Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu Saturation \ Shallow Aqu	ators (2 or more s (B1) (Riverine) eposits (B2) (Riverine atterns (B10) Water Table (C2 Surface (C7) rrows (C8) /isible on Aerial Indiator (D3)	required) erine))
YDROLO Vetland H Primary Inc Surfac High V Satura Water Sedim Drift D Surfac Inunda Water- Field Obse Surface Water Table Saturation	OGY Iydrology Indicators: dicators (any one indicators (any one indicators) water (A1) Vater Table (A2) ation (A3) Marks (B1) (Nonriverse (B2) (Nonriverse (B3) (Nonriverse (B4)) water Table (A2) ation (A3) All	rine) priverine) prine) Imagery (B7	Salt Crus Biotic Cru Aquatic II Hydroger Oxidized Presence Recent Ir Other (Ex	ust (B12) nvertebrates n Sulfide Odo Rhizosphere e of Reduced on Reduction cplain in Ren nches):	or (C1) es along L d Iron (C4) n in Plow	ed Soils (Sec	Condary Indic Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu Saturation N Shallow Aqu FAC-Neutra	ators (2 or more s (B1) (Riverine) eposits (B2) (Riverine tts (B3) (Riverine atterns (B10) Water Table (C2 Surface (C7) rrows (C8) /isible on Aerial II uitard (D3) al Test (D5)	required) erine)) magery (Cs
YDROLO Wetland H Primary Inc Surfac High V Satura Water Sedim Drift D Surfac Inunda Water- Field Obse Surface Water Tabl Saturation includes c	OGY Iydrology Indicators: dicators (any one indicators (any one indicators) Water (A1) Vater Table (A2) Ation (A3) Marks (B1) (Nonriverse) Water (B3) (Nonriverse) Water (B3) (Nonriverse) Water (B3) (Nonriverse) Water (B4)	cator is sufficerine) prine) prine) Imagery (B7 /es	Salt Crus Biotic Cru Aquatic II Hydroger Oxidized Presence Recent Ir Other (E) Depth (ii Depth (ii	ust (B12) nvertebrates n Sulfide Odd Rhizosphere e of Reduced on Reduction cplain in Ren nches): nches):	or (C1) es along L d Iron (C4 n in Plow marks)	ed Soils (Sec Sec Cols (C3) C3 C3 C3 C4 C4 C4 C4 C4	condary Indic Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu Saturation \ Shallow Aqu	ators (2 or more s (B1) (Riverine) eposits (B2) (Riverine tts (B3) (Riverine atterns (B10) Water Table (C2 Surface (C7) rrows (C8) /isible on Aerial II uitard (D3) al Test (D5)	required) erine))
YDROLO Wetland H Primary Inc Surface High V Satura Water Sedim Drift D Surface Inunda Water-Field Obse Surface Wa Water Tabl Saturation (includes c	OGY Iydrology Indicators: dicators (any one indicators (any one indicators) water (A1) Vater Table (A2) ation (A3) Marks (B1) (Nonriverse (B2) (Nonriverse (B3) (Nonriverse (B4)) water Table (A2) ation (A3) All	cator is sufficerine) prine) prine) Imagery (B7 /es	Salt Crus Biotic Cru Aquatic II Hydroger Oxidized Presence Recent Ir Other (E) Depth (ii Depth (ii	ust (B12) nvertebrates n Sulfide Odd Rhizosphere e of Reduced on Reduction cplain in Ren nches): nches):	or (C1) es along L d Iron (C4 n in Plow marks)	ed Soils (Sec Sec Cols (C3) C3 C3 C3 C4 C4 C4 C4 C4	Condary Indic Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu Saturation N Shallow Aqu FAC-Neutra	ators (2 or more s (B1) (Riverine) eposits (B2) (Riverine tts (B3) (Riverine atterns (B10) Water Table (C2 Surface (C7) rrows (C8) /isible on Aerial II uitard (D3) al Test (D5)	required) erine)) magery (Cs
YDROLO Wetland H Primary Inc Surface High W Satura Water Sedim Drift D Surface Inunda Water- Field Obse Surface Water Table Saturation (includes c Describe R	OGY Iydrology Indicators: dicators (any one indicators (any one indicators) Water (A1) Vater Table (A2) Ation (A3) Marks (B1) (Nonriverse) Water (B3) (Nonriverse) Water (B3) (Nonriverse) Water (B3) (Nonriverse) Water (B4)	cator is sufficerine) prine) prine) Imagery (B7 /es	Salt Crus Biotic Cru Aquatic II Hydroger Oxidized Presence Recent Ir Other (E) Depth (ii Depth (ii	ust (B12) nvertebrates n Sulfide Odd Rhizosphere e of Reduced on Reduction cplain in Ren nches): nches):	or (C1) es along L d Iron (C4 n in Plow marks)	ed Soils (Sec Sec Cols (C3) C3 C3 C3 C4 C4 C4 C4 C4	Condary Indic Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu Saturation N Shallow Aqu FAC-Neutra	ators (2 or more s (B1) (Riverine) eposits (B2) (Riverine tts (B3) (Riverine atterns (B10) Water Table (C2 Surface (C7) rrows (C8) /isible on Aerial II uitard (D3) al Test (D5)	required) erine)) magery (Cs
YDROLO Wetland H Primary Inc Surfac High V Satura Water Sedim Drift D Surfac Inunda Water- Field Obse Surface Wa Water Tabl Saturation includes c	OGY Iydrology Indicators: dicators (any one indicators (any one indicators) Water (A1) Vater Table (A2) Ation (A3) Marks (B1) (Nonriverse) Water (B3) (Nonriverse) Water (B3) (Nonriverse) Water (B3) (Nonriverse) Water (B4)	cator is sufficerine) prine) prine) Imagery (B7 /es	Salt Crus Biotic Cru Aquatic II Hydroger Oxidized Presence Recent Ir Other (E) Depth (ii Depth (ii	ust (B12) nvertebrates n Sulfide Odd Rhizosphere e of Reduced on Reduction cplain in Ren nches): nches):	or (C1) es along L d Iron (C4 n in Plow marks)	ed Soils (Sec Sec Cols (C3) C3 C3 C3 C4 C4 C4 C4 C4	Condary Indic Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu Saturation N Shallow Aqu FAC-Neutra	ators (2 or more s (B1) (Riverine) eposits (B2) (Riverine tts (B3) (Riverine atterns (B10) Water Table (C2 Surface (C7) rrows (C8) /isible on Aerial II uitard (D3) al Test (D5)	required) erine)) magery (Cs
YDROLO Wetland H Primary Inc Surfac High V Satura Water Sedim Drift D Surfac Inunda Water- Field Obse Surface Water Table Saturation includes c Describe R	OGY Iydrology Indicators: dicators (any one indicators (any one indicators) Water (A1) Vater Table (A2) Ation (A3) Marks (B1) (Nonriverse) Water (B3) (Nonriverse) Water (B3) (Nonriverse) Water (B3) (Nonriverse) Water (B4)	cator is sufficerine) prine) prine) Imagery (B7 /es	Salt Crus Biotic Cru Aquatic II Hydroger Oxidized Presence Recent Ir Other (E) Depth (ii Depth (ii	ust (B12) nvertebrates n Sulfide Odd Rhizosphere e of Reduced on Reduction cplain in Ren nches): nches):	or (C1) es along L d Iron (C4 n in Plow marks)	ed Soils (Sec Sec Cols (C3) C3 C3 C3 C4 C4 C4 C4 C4	Condary Indic Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu Saturation N Shallow Aqu FAC-Neutra	ators (2 or more s (B1) (Riverine) eposits (B2) (Riverine tts (B3) (Riverine atterns (B10) Water Table (C2 Surface (C7) rrows (C8) /isible on Aerial II uitard (D3) al Test (D5)	required) erine)) magery (Cs
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YDROLO Vetland H Primary Inc Surfac High V Satura Water Sedim Drift D Surfac Inunda Water- Gurface Water- Surface Water Table Saturation Includes corescribe R	OGY Iydrology Indicators: dicators (any one indicators (any one indicators) Water (A1) Vater Table (A2) Ation (A3) Marks (B1) (Nonriverse) Water (B3) (Nonriverse) Water (B3) (Nonriverse) Water (B3) (Nonriverse) Water (B4)	cator is sufficerine) prine) prine) Imagery (B7 /es	Salt Crus Biotic Cru Aquatic II Hydroger Oxidized Presence Recent Ir Other (E) Depth (ii Depth (ii	ust (B12) nvertebrates n Sulfide Odd Rhizosphere e of Reduced on Reduction cplain in Ren nches): nches):	or (C1) es along L d Iron (C4 n in Plow marks)	ed Soils (Sec Sec Cols (C3) C3 C3 C3 C4 C4 C4 C4 C4	Condary Indic Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu Saturation N Shallow Aqu FAC-Neutra	ators (2 or more s (B1) (Riverine) eposits (B2) (Riverine tts (B3) (Riverine atterns (B10) Water Table (C2 Surface (C7) rrows (C8) /isible on Aerial II uitard (D3) al Test (D5)	required) erine)) magery (C:

Project/Site: Pure Water Program		City/Count	ty:Lakeside/	San Diego	Sam	pling Date:()	9/28/20	16
Applicant/Owner: City of San Diego				State:CA	Sam	pling Point:7	a	
Investigator(s):Callie Ford, Janice Wondolleck		Section, T	ownship, Ra	nge: 36, 14S, 1W		_		
Landform (hillslope, terrace, etc.):		Local relie	ef (concave,	convex, none): None	e	Slo	pe (%):	
Subregion (LRR):C - Mediterranean California	Lat:32.9	90		Long:-116.92		 Datu	m:	
Soil Map Unit Name: Riverwash				NWI cla	assification:	Riverine		
Are climatic / hydrologic conditions on the site typical for this	time of ye	ear? Yes	No ((If no, explain	n in Remar	ks.)		
		disturbed?		Normal Circumstan	ces" preser	nt? Yes	No	\circ
		oblematic?		eded, explain any a		_		
SUMMARY OF FINDINGS - Attach site map sh							atures,	etc.
Hydrophytic Vegetation Present? Yes No	•							
	•	ls t	he Sampled	Area				
Wetland Hydrology Present? Yes No			hin a Wetlar		0	No 💿		
Remarks: This data station is located within an active	пооаріа	in of the s	San vicente	е Стеек.				
VEGETATION								
	Absolute		Indicator	Dominance Test	workshee	t:		
	% Cover	Species?	Status	Number of Domin				
1				That Are OBL, FA	CW, or FA	C: 0		(A)
2				Total Number of D				(D)
3				Species Across A	Il Strata:	1		(B)
4Total Cover:	%		-	Percent of Domina That Are OBL, FA		_	0 %	(A/B)
Sapling/Shrub Stratum							J 70	(700)
1. Eriogonum fasciculatum	5	No	Not Listed	Prevalence Index				
2-Baccharis sarothroides	50	Yes	FACU	Total % Cove	r of:	Multiply		-
3-Baccharis salicifolia	20	No	FAC	OBL species		x 1 = x 2 =	0	
4.Acmispon glaber	1	No	Not Listed	FACW species FAC species	20	x 2 = x 3 =	0 60	
5 Total Cover:	76 %			FACU species	20 50	x 4 =	200	
Herb Stratum	70 %			UPL species	6	x 5 =	30	
1.Heliotropium curassavicum	<1	No	FACU	Column Totals:	76	(A)	290	(B)
2.						, ,		(-)
3.				Prevalence			3.82	
4.				Hydrophytic Veg				
5				Dominance T Prevalence Ir				
6				Morphologica			sunnorti	na
7						n a separate		iig
Total Cover:	0 %			Problematic I	-lydrophytic	: Vegetation ¹	(Explain	1)
Woody Vine Stratum	0 %							
1				¹ Indicators of hyd be present.	ric soil and	d wetland hy	drology r	must
Total Cover:	%			Hydrophytic Vegetation				
% Bare Ground in Herb Stratum 20 %	of Biotic C	Crust	<u>%</u>	Present?	Yes 🔘	No 💽)	
Remarks:								

SOIL Sampling Point: 7a

Depth (inches)	Matrix		Redo	Feature:	s		n the abs		·
	Color (moist)	% Co	olor (moist)	<u>%</u>	Type ¹	_Loc ²	Textu	ure ³	Remarks
0-6	10 YR 4/3	50					Loamy sa	and	
0-6	10 YR 4/3	50 2.5 Y	7 6/8	<1	C	M	Sand		
6-12	10 YR 3/3	90					Sand		
6-12	10 YR 4/3	10					Loamy s	and	
	-								
	-								
1Type: C=C	Concentration, D=Dep	letion RM-Redu	uced Matrix	2I ocation	n: PL=Pore	Lining P	C-Post (Channel M	M-Matrix
						_			n, Silt Loam, Silt, Loamy Sand, Sand.
	Indicators: (Applicable					· •			Problematic Hydric Soils:
Histoso	ol (A1)		Sandy Redox	(S5)					(A9) (LRR C)
	Epipedon (A2)		Stripped Ma	, ,	1 (54)				(A10) (LRR B)
	Histic (A3) Jen Sulfide (A4)	Ļ	Loamy Muc Loamy Gley	-	, ,				/ertic (F18) nt Material (TF2)
1 1 -	ed Layers (A5) (LRR (<u> </u>	Depleted M		(12)				plain in Remarks)
	luck (A9) (LRR D)	'	Redox Dark	. ,	(F6)		Ш		,
	ed Below Dark Surface	ə (A11)	Depleted Da						
	Dark Surface (A12)		Redox Depi		(F8)		4		
	Mucky Mineral (S1) Gleyed Matrix (S4)	L	Vernal Pool	s (F9)					lydrophytic vegetation and drology must be present.
	Layer (if present):						1	otiana ny c	arology muct be precent.
Type:	, , ,								
Depth (ir	nches):		-				Hydri	c Soil Pre	esent? Yes No (•)
Remarks:							Į.		
HYDROLO	ngy								
	ydrology Indicators:							Secondar	y Indicators (2 or more required)
•	licators (any one indica		1						r Marks (B1) (Riverine)
	e Water (A1)	ator io odinoient)	Salt Crust	(D11)				\Box	
- Durtace								l I Sedir	ment Denosits (R2) (Riverine)
	` '			` '					ment Deposits (B2) (Riverine) Deposits (B3) (Riverine)
High W	/ater Table (A2) tion (A3)		Biotic Crus	st (B12)	es (B13)			Drift I	Deposits (B3) (Riverine)
High W	/ater Table (A2)	ne)	Biotic Crus	st (B12) vertebrate	, ,			X Drift I X Drain	
High W Saturat Water I	/ater Table (A2) tion (A3)	,	Biotic Crus	st (B12) vertebrate Sulfide O	dor (C1)	Living Roo		Drift I Drain Dry-S	Deposits (B3) (Riverine) age Patterns (B10)
High W Saturat Water I Sedime	/ater Table (A2) tion (A3) Marks (B1) (Nonriver i	nriverine)	Biotic Crus Aquatic Inv Hydrogen	st (B12) vertebrate Sulfide O Rhizosphe	dor (C1) eres along	-		Drift I Drain Dry-S Thin Crayf	Deposits (B3) (Riverine) lage Patterns (B10) Season Water Table (C2) Muck Surface (C7) Sish Burrows (C8)
High W Saturat Water I Sedime Drift De	Vater Table (A2) tion (A3) Marks (B1) (Nonriverient Deposits (B2) (Nonriverient Society (B3) (Nonriveries Soil Cracks (B6)	nriverine) rine)	Biotic Crus Aquatic In Hydrogen Oxidized F Presence	st (B12) vertebrate Sulfide O Rhizosphe of Reduce n Reduce	dor (C1) eres along ed Iron (C4 ion in Plow	1)	ots (C3)	Drift I Drain Dry-S Thin Crayf Satur	Deposits (B3) (Riverine) Lage Patterns (B10) Deason Water Table (C2) Muck Surface (C7) Lish Burrows (C8) Lation Visible on Aerial Imagery (C9)
High W Saturat Water I Sedime Drift De X Surface	Vater Table (A2) Ition (A3) Marks (B1) (Nonriverient Deposits (B2) (Nonriveries Soil Cracks (B6) Ition Visible on Aerial I	nriverine) rine)	Biotic Crus Aquatic In Hydrogen Oxidized F Presence	st (B12) vertebrate Sulfide O Rhizosphe of Reduce n Reduce	dor (C1) eres along ed Iron (C4 ion in Plow	1)	ots (C3)	Drift I Drift I Dry-S Thin Crayf Satur Shall	Deposits (B3) (Riverine) lage Patterns (B10) Season Water Table (C2) Muck Surface (C7) Sish Burrows (C8) Pation Visible on Aerial Imagery (C9) ow Aquitard (D3)
High W Saturat Water I Sedime Drift De X Surface Inundat Water-S	Vater Table (A2) Ition (A3) Marks (B1) (Nonriverient Deposits (B2) (Nonriverient Soil Cracks (B6) Ition Visible on Aerial I Stained Leaves (B9)	nriverine) rine)	Biotic Crus Aquatic In Hydrogen Oxidized F Presence	st (B12) vertebrate Sulfide O Rhizosphe of Reduce n Reduce	dor (C1) eres along ed Iron (C4 ion in Plow	1)	ots (C3)	Drift I Drift I Dry-S Thin Crayf Satur Shall	Deposits (B3) (Riverine) Lage Patterns (B10) Deason Water Table (C2) Muck Surface (C7) Lish Burrows (C8) Lation Visible on Aerial Imagery (C9)
High W Saturat Water I Sedime Drift De X Surface Inundat Water-S	Vater Table (A2) tion (A3) Marks (B1) (Nonriveri ent Deposits (B2) (Non eposits (B3) (Nonriveri e Soil Cracks (B6) tion Visible on Aerial I Stained Leaves (B9) ervations:	nriverine) rine) magery (B7)	Biotic Crus Aquatic In Hydrogen Oxidized F Presence Recent Iro Other (Exp	st (B12) vertebrate Sulfide O Rhizosphe of Reduce n Reduct blain in Re	dor (C1) eres along ed Iron (C4 ion in Plow	1)	ots (C3)	Drift I Drift I Dry-S Thin Crayf Satur Shall	Deposits (B3) (Riverine) lage Patterns (B10) Season Water Table (C2) Muck Surface (C7) Sish Burrows (C8) Pation Visible on Aerial Imagery (C9) ow Aquitard (D3)
High W Saturat Water I Sedime Drift De X Surface Inundat Water-S Field Obse Surface Wa	Vater Table (A2) Ition (A3) Marks (B1) (Nonriverient Deposits (B2) (Nonriverient Soil Cracks (B6) Ition Visible on Aerial I Stained Leaves (B9) Invations: Inter Present?	mriverine) rine) magery (B7) es No (Biotic Crus Aquatic In Hydrogen Oxidized F Presence Recent Iro Other (Exp	ot (B12) vertebrate Sulfide O Rhizosphe of Reduce n Reduct olain in Re	dor (C1) eres along ed Iron (C4 ion in Plow	1)	ots (C3)	Drift I Drift I Dry-S Thin Crayf Satur Shall	Deposits (B3) (Riverine) lage Patterns (B10) Season Water Table (C2) Muck Surface (C7) Sish Burrows (C8) Pation Visible on Aerial Imagery (C9) ow Aquitard (D3)
High W Saturat Water I Sedime Drift De Surface Inundat Water-S Field Obse Surface Water Table	Vater Table (A2) Ition (A3) Marks (B1) (Nonriverient Deposits (B2) (Nonriverient Soil Cracks (B6) Ition Visible on Aerial I Stained Leaves (B9) Invations: Inter Present? Yee Present? Yee Present?	mriverine) rine) magery (B7) es No se	Biotic Crus Aquatic Inv Hydrogen Oxidized F Presence Recent Iro Other (Exp	ot (B12) vertebrate Sulfide O Rhizosphe of Reduct n Reduct plain in Re ches):	dor (C1) eres along ed Iron (C4 ion in Plow	1)	ots (C3)	Drift I Drift I Dry-S Thin Crayf Satur Shall	Deposits (B3) (Riverine) lage Patterns (B10) Season Water Table (C2) Muck Surface (C7) Sish Burrows (C8) Pation Visible on Aerial Imagery (C9) ow Aquitard (D3)
High W Saturat Water I Sedime Drift De Surface Inundat Water-S Field Obse Surface Wa Water Table Saturation F (includes ca	Vater Table (A2) Ition (A3) Marks (B1) (Nonriveriant Deposits (B2) (Nonriveriant Deposits (B3) (Nonriveriant Deposits (B6) (Nonriveriant Deposits (B6)) Ition Visible on Aerial I Stained Leaves (B9) Invations: Inter Present? Inter P	magery (B7) es No es No es No es No es	Biotic Crus Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Other (Exp Depth (inc	ot (B12) vertebrate Sulfide O Rhizosphe of Reduce n Reduce plain in Re ches): ches):	dor (C1) eres along ed Iron (C4 ion in Plow emarks)	yed Soils (ots (C3) C6) and Hyd	Drift I Drain Dry-S Thin Crayf Satur Shall FAC-	Deposits (B3) (Riverine) lage Patterns (B10) Season Water Table (C2) Muck Surface (C7) Sish Burrows (C8) Pation Visible on Aerial Imagery (C9) ow Aquitard (D3)
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High W Saturat Water I Sedime Drift De X Surface Inundat Water-S Field Obse Surface Wa Water Table Saturation F (includes ca Describe Re	Vater Table (A2) Ition (A3) Marks (B1) (Nonriveriant Deposits (B2) (Nonriveriant Deposits (B3) (Nonriveriant Deposits (B6) (Nonriveriant Deposits (B6)) Ition Visible on Aerial I Stained Leaves (B9) Invations: Inter Present? Inter P	magery (B7) es No es No es No es No es	Biotic Crus Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Other (Exp Depth (inc	ot (B12) vertebrate Sulfide O Rhizosphe of Reduce n Reduce plain in Re ches): ches):	dor (C1) eres along ed Iron (C4 ion in Plow emarks)	yed Soils (ots (C3) C6) and Hyd	Drift I Drain Dry-S Thin Crayf Satur Shall FAC-	Deposits (B3) (Riverine) lage Patterns (B10) Season Water Table (C2) Muck Surface (C7) Sish Burrows (C8) Pation Visible on Aerial Imagery (C9) ow Aquitard (D3) Neutral Test (D5)
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High W Saturat Water I Sedime Drift De Surface Inundat Water-S Field Obse Surface Wa Water Table Saturation F (includes ca Describe Re	Vater Table (A2) Ition (A3) Marks (B1) (Nonriveriant Deposits (B2) (Nonriveriant Deposits (B3) (Nonriveriant Deposits (B6) (Nonriveriant Deposits (B6)) Ition Visible on Aerial I Stained Leaves (B9) Invations: Inter Present? Inter P	magery (B7) es No es No es No es No es	Biotic Crus Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Other (Exp Depth (inc	ot (B12) vertebrate Sulfide O Rhizosphe of Reduce n Reduce plain in Re ches): ches):	dor (C1) eres along ed Iron (C4 ion in Plow emarks)	yed Soils (ots (C3) C6) and Hyd	Drift I Drain Dry-S Thin Crayf Satur Shall FAC-	Deposits (B3) (Riverine) lage Patterns (B10) Season Water Table (C2) Muck Surface (C7) Sish Burrows (C8) Pation Visible on Aerial Imagery (C9) ow Aquitard (D3) Neutral Test (D5)

Project/Site: Pure Water Program		City/Count	y:Lakeside/	San Diego	Sam	pling Date:()	9/28/20	16
Applicant/Owner: City of San Diego				State:CA	Sam	pling Point:7	Ь	
Investigator(s):Callie Ford, Janice Wondolleck		Section, T	ownship, Ra	nge: 36, 14S, 1W		_		
Landform (hillslope, terrace, etc.):		Local relie	ef (concave,	convex, none):Non	e	Slop	oe (%):	
Subregion (LRR):C - Mediterranean California	Lat:32.9	90		Long:-116.92		 Datur	n: _	
Soil Map Unit Name: Riverwash				NWI cla	assification:	Riverine		
Are climatic / hydrologic conditions on the site typical for this	time of ye	ar? Yes	No ((If no, explai	- n in Remark	(s.)		
		disturbed?		'Normal Circumstan	ces" presen	nt? Yes	No	\bigcirc
		oblematic?		eeded, explain any a	·	\sim		
SUMMARY OF FINDINGS - Attach site map sl							atures	, etc.
Hydrophytic Vegetation Present? Yes No	•							
	•	ls t	he Sampled	l Area				
Wetland Hydrology Present? Yes No	•	wit	hin a Wetlaı	nd? Yes	0 1	No 💿		
Remarks: This data station is located within the San V	icente C	reek outs	ide of the a	ctive floodplain.				
VEGETATION								
	Absolute		Indicator	Dominance Test	worksheet	:		
	% Cover	Species?	Status	Number of Domin				, a \
1				That Are OBL, FA	CW, or FAC	D: 0		(A)
2				Total Number of [(5)
3				Species Across A	II Strata:	0		(B)
4				Percent of Domin		_		
Total Cover: Sapling/Shrub Stratum	%			That Are OBL, FA	CW, or FAC	0:	%	(A/B)
1.Baccharis sarothroides	25	No	FACU	Prevalence Inde	x workshee	et:		
2.Brickellia desertorum	25	No	Not Listed	Total % Cove	er of:	Multiply	/ by:	_
3.Hirschfeldia incana	<1	No	Not Listed	OBL species		x 1 =	0	
4.				FACW species		x 2 =	0	
5				FAC species		x 3 =	0	
Total Cover: Herb Stratum	50 %			FACU species	25	x 4 =	100	
	~1	No		UPL species	25	x 5 =	125	(= \
1.Pseudognaphalium spp.	<1	110		Column Totals:	50	(A)	225	(B)
3.				Prevalence	Index = B/A	A =	4.50	
4.				Hydrophytic Veg	etation Ind	licators:		
5.				Dominance T	est is >50%	, D		
6.				Prevalence Ir	ndex is ≤3.0	1		
7.				Morphologica				ng
8.						n a separate	,	.
Total Cover:	0 %			- Problematic I	туагорпуцс	vegetation	(Explair	1)
Woody Vine Stratum				¹ Indicators of hyd	lric soil and	wetland hy	drology	muet
1				be present.	ilic soli allu	welland nyt	liology	iiiust
2Total Cover:	0/			Hydrophytic				
	%			Vegetation				
% Bare Ground in Herb Stratum % Cover of the control of the cover of the cove	of Biotic C	Crust	<u>%</u>	Present?	Yes 🔘	No 💿		
Remarks:				•				

SOIL Sampling Point: 7b Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) Loc² Texture³ (inches) Color (moist) Type¹ 50 0 - 107.5 YR 4/4 Sand 0 - 107.5 YR 4/6 50 Sand ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix. 3Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) 1 cm Muck (A9) (LRR C) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) Redox Dark Surface (F6) 1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) ⁴Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) wetland hydrology must be present. Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** No (Yes (Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (2 or more required) Primary Indicators (any one indicator is sufficient) Water Marks (B1) (Riverine) Surface Water (A1) Salt Crust (B11) Sediment Deposits (B2) (Riverine) High Water Table (A2) Biotic Crust (B12) Drift Deposits (B3) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Thin Muck Surface (C7) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8)

Surface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Shallow Aquitard (D3) Water-Stained Leaves (B9) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes (No (Depth (inches): Water Table Present? Yes (No (Depth (inches): Saturation Present? Depth (inches): Yes (No (Wetland Hydrology Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: US Army Corps of Engineers Arid West - Version 11-1-2006

Project/Site: Pure Water Program		City/Count	y:San Diego	o/San Diego	Sam	npling Date:	09/28/20	16
Applicant/Owner: City of San Diego				State:CA	Sam	pling Point:	8	
Investigator(s):Callie Ford, Janice Wondolleck		Section, T	ownship, Ra	nge: 15, 15S, 3W				
Landform (hillslope, terrace, etc.):		Local relie	ef (concave,	convex, none): None	e	SI	ope (%):	
Subregion (LRR):C - Mediterranean California	Lat:32.8	36		Long:-117.18		 Dat	um:	
Soil Map Unit Name: Riverwash				NWI cla	assification	Riverine		
Are climatic / hydrologic conditions on the site typical for this t	time of ye	ear? Yes	No ((If no, explain	n in Remar	ks.)		
Are Vegetation Soil or Hydrology sig	nificantly	disturbed?	Are "	Normal Circumstan	ces" prese	nt? Yes) No	\circ
Are Vegetation Soil or Hydrology na	turally pro	oblematic?	(If ne	eded, explain any a	nswers in I	Remarks.)		
SUMMARY OF FINDINGS - Attach site map sh							atures,	etc.
Hydrophytic Vegetation Present? Yes No	•							
Hydric Soil Present? Yes No	•	ls t	he Sampled	Area				
Wetland Hydrology Present? Yes No		wit	hin a Wetlar	nd? Yes	0	No 💿		
Remarks:								
VEGETATION								
	bsolute Cover	Dominant Species?	Indicator Status	Dominance Test				
1.Eucalyptus globulus	5	No	Not Listed	Number of Domin That Are OBL, FA			1	(A)
2.				Total Number of D			-	` ,
3.				Species Across A			2	(B)
4.				Percent of Domina	ant Species	9		
Total Cover:	5 %			That Are OBL, FA		_	0.0 %	(A/B)
Sapling/Shrub Stratum 1.Baccharis salicifolia	20	No	FAC	Prevalence Index	workshe	et·		
2-Baccharis sanctional	5	No	FACU	Total % Cove			oly by:	
3.		-110		OBL species		x 1 =	0	
4.				FACW species	10	x 2 =	20	
5.				FAC species	23	x 3 =	69	
Total Cover:	25 %			FACU species	10	x 4 =	40	
Herb Stratum	_	**		UPL species	5	x 5 =	25	
1. Ambrosia psilostachya	5	Yes	FACU	Column Totals:	48	(A)	154	(B)
2.Cyperus eragrostis (dead) 3.Plantago lanceolata	10	Yes	FACW	Prevalence	Index = B/	A =	3.21	
4.	3	No	FAC	Hydrophytic Veg	etation Inc	dicators:	3.21	
5.				Dominance T				
6.				Prevalence Ir	ndex is ≤3.0	D ¹		
7.				Morphologica				ng
8.				Problematic H		n a separat		.
Total Cover:	18 %			Froblematic	iyuropriyuc	, vegetatioi	i (Expiairi	')
Woody Vine Stratum 1.				¹ Indicators of hyd	ric soil and	d wetland h	ydrology i	must
2.				be present.			,	
Total Cover:	%		-	Hydrophytic				
% Bare Ground in Herb Stratum 50 % % Cover of	of Biotic C	Crust	%	Vegetation Present?	Yes (No (a	
Remarks: Mulefat present in sporadic patches.					.000		<u> </u>	
vidiciat present in spotaule pateries.								
I .								

SOIL Sampling Point: 8 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) Color (moist) % Loc² Texture³ (inches) Type¹ Remarks 50 0-4N/A Cobble 0-410 YR 4/3 50 Sand ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix. 3Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Depleted Matrix (F3) Other (Explain in Remarks) Stratified Layers (A5) (LRR C) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) ⁴Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) wetland hydrology must be present. Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** Yes (No (

HYDROLOGY

Remarks:

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)	Water Marks (B1) (Riverine)
Surface Water (A1) Salt Crust (B11)	Sediment Deposits (B2) (Riverine)
High Water Table (A2) Biotic Crust (B12)	Tift Deposits (B3) (Riverine)
Saturation (A3) Aquatic Invertebrates (B13)	Drainage Patterns (B10)
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Livi	ing Roots (C3) Thin Muck Surface (C7)
Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Surface Soil Cracks (B6) Recent Iron Reduction in Plowed	Soils (C6) Saturation Visible on Aerial Imagery (C9)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches):	
(includes capillary fringe)	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspec	ctions), if available:
Remarks:	

Project/Site: Pure Water Program	Cit	ty/County: <u>San D</u>	piego/San Diego	Sampling Date: 09/	27/2016
pplicant/Owner: City of San Diego			State:CA	Sampling Point:9a	
vestigator(s):Danielle Mullen, Katie Dayton	Se	ection, Township	, Range: 32, 15S, 2W	·	
andform (hillslope, terrace, etc.):	Lo	ocal relief (conca	ve, convex, none):None	Slope	(%):()
ubregion (LRR):C - Mediterranean California	Lat:32.82		Long:-117.11	Datum:	
il Map Unit Name: Riverwash				cation: Freshwater Fores	sted/Shrub wet
e climatic / hydrologic conditions on the site typic	cal for this time of vear	2 Yes A	 No	-	
e Vegetation Soil or Hydrology	significantly dis		re "Normal Circumstances" p		No (
			·	~	NO O
e Vegetation Soil or Hydrology	naturally proble		If needed, explain any answe		
UMMARY OF FINDINGS - Attach site	e map showing sa	ampling poir	nt locations, transects	, important feati	ıres, etc.
Hydrophytic Vegetation Present? Yes	No 💿				
Hydric Soil Present? Yes		Is the Sam	oled Area		
Wetland Hydrology Present? Yes		within a W		No 💿	
Remarks:Non-vegetated channel within sout	hern cottonwood-w			ta station taken in	ow flow
EGETATION					
Free Streetum (Hea esigntific names)		ominant Indicate		sheet:	
Tree Stratum (Use scientific names.)	% Cover S	pecies? Status	Number of Dominant S That Are OBL, FACW,		(A)
·			— Inat Ale Obl, FACW,	or FAC: 0	(A)
 J.			Total Number of Domir Species Across All Stra		(B)
: .					(D)
	otal Cover: %		 Percent of Dominant S That Are OBL, FACW, 		% (A/B)
Sapling/Shrub Stratum	70 70 70 70 70 70 70 70 70 70 70 70 70 7		mat Aic OBL, I AOW,	01170.	% (A/D)
			Prevalence Index wor		
			Total % Cover of:	Multiply b	_
			OBL species FACW species	x 1 = x 2 =	0
i.			FAC species	x 3 =	0
	tal Cover: %		FACU species	x 4 =	0
Herb Stratum	70 Acres 10		UPL species	x 5 =	0
			Column Totals:	(A)	(B)
2.				. ,	,
3.			Prevalence Index		
			Hydrophytic Vegetation Dominance Test is		
			Prevalence Index i		
				is <u>-</u> 3.0 iptations¹ (Provide su	nnorting
			I I Morphological Add		
			— data in Remark	s or on a separate sh	eet)
3.	tal Cover			s or on a separate shiphytic Vegetation ¹ (E	,
7. 3. To	tal Cover:		Problematic Hydro	phytic Vegetation ¹ (E	xplain)
7	tal Cover: %		Problematic Hydro	phytic Vegetation ¹ (E	xplain)
7	otal Cover: %		Problematic Hydro Indicators of hydric so be present.	phytic Vegetation ¹ (E	xplain)
7	stal Cover: %		Problematic Hydro Indicators of hydric so be present. Hydrophytic	phytic Vegetation ¹ (E	xplain)
Woody Vine Stratum 1		st %	Problematic Hydro Indicators of hydric so be present. Hydrophytic Vegetation	phytic Vegetation ¹ (E	xplain)

SOIL

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

Depth

Matrix

Redox Features

(inches)

Color (moist)

Color (moist)

Remarks

Depth	Matrix		Redo	x Features	;			
(inches)	Color (moist)	% (Color (moist)	%	Type ¹	Loc ²	Texture ³	Remarks
0-0.5	10 YR 2/1	100					mucky sand	
0.5-4	7.5 YR 3/2	100					sandy with cobbl	
	- 110 110 5/2						sandy with cooping	
		· — — —						
	· -							
	Concentration, D=Dep						C=Root Channel, M=N	
					ndy Loam	, Clay Loa		ilt Loam, Silt, Loamy Sand, Sand.
l	Indicators: (Applicable	e to all LRRs, i		-				olematic Hydric Soils:
Histoso	` '		Sandy Redo	, ,			1 cm Muck (A	
	Epipedon (A2)		Stripped M	, ,	I (E1)		2 cm Muck (A Reduced Vert	, ,
	Histic (A3) Jen Sulfide (A4)		Loamy Muc				Red Parent M	\ /
	ed Layers (A5) (LRR (:)	Depleted M		(1 2)		Other (Explain	,
	luck (A9) (LRR D)	•)	Redox Darl	, ,	F6)		Other (Explain	Till Romano)
l 🗀	ed Below Dark Surface	e (A11)	Depleted D	,	,			
ı Ш	Dark Surface (A12)	,	Redox Dep					
Sandy	Mucky Mineral (S1)		Vernal Poo		,		⁴Indicators of hydr	ophytic vegetation and
Sandy	Gleyed Matrix (S4)						wetland hydrolo	ogy must be present.
Restrictive	Layer (if present):							
Type:co	bbles							
Depth (ii	nches):4		_				Hydric Soil Preser	nt? Yes No 💿
Remarks: S	Soil is cobbly betwe	en 2-6 inches	s. Sandy soil h	as dark n	nucky lav	er on su	rvevs. Could not dig	g past 4 inches due to
	estrictive cobbles.		•		, ,		, ,	
HYDROLO	OGY							
Wetland Hy	ydrology Indicators:						Secondary In	dicators (2 or more required)
Primary Ind	licators (any one indicators	ator is sufficien	t)				Water M	arks (B1) (Riverine)
	e Water (A1)		Salt Crust	(B11)			— □ X Sedimen	at Deposits (B2) (Riverine)
ا كا ا	/ater Table (A2)		Biotic Cru					posits (B3) (Riverine)
	tion (A3)			vertebrate	s (B13)			e Patterns (B10)
🖳	Marks (B1) (Nonriver i	ne)		Sulfide Od				son Water Table (C2)
🗀	ent Deposits (B2) (No	,		Rhizosphe	, ,	Livina Ro		ck Surface (C7)
ا ت	eposits (B3) (Nonrive	,		of Reduce	_	_	· · · ·	Burrows (C8)
	e Soil Cracks (B6)	,		n Reduction	,	,		on Visible on Aerial Imagery (C9)
🖳	tion Visible on Aerial I	magery (B7)		plain in Re		(Aquitard (D3)
🖳	Stained Leaves (B9)			p.a				utral Test (D5)
Field Obse								()
		es No	Depth (in	chas).				
Water Table		_	~	<i>′</i> —		_		
		es No		· · —		_		
Saturation I	Present? Yapillary fringe)	es O No	Depth (in	cnes):		Wetl	and Hydrology Prese	ent? Yes 💿 No 🔘
	ecorded Data (stream	gauge, monito	ring well, aerial	photos, pro	evious ins			
				-				
Remarks:St	tagnant water is pre	sent in chann	el in nonded s	ireas				
		Some in Chaill	ponded t					

US Army Corps of Engineers

Project/Site: Pure Water Program		City/Coun	ty:San Dieg	o/San Diego	Samp	oling Date: 09	9/27/20	16
Applicant/Owner: City of San Diego				State:CA	 Samp	 oling Point:9ե)	
Investigator(s): Danielle Mullen, Katie Dayton		Section, T	ownship, Ra	nge: 32, 15S, 2W		_		
Landform (hillslope, terrace, etc.):		Local reli	ef (concave,	convex, none):None	 e	Slop	e (%):()	
Subregion (LRR):C - Mediterranean California	Lat:32.8	82		Long:-117.11		 Datun	n:	
Soil Map Unit Name: Riverwash				NWI cla	assification:	Freshwater for	rested/Shr	rub wetla
Are climatic / hydrologic conditions on the site typical for this	time of ye	ear? Yes (• No ((If no, explain	n in Remark	s.)		
		disturbed		'Normal Circumstan	ces" present	t? Yes	No (\circ
	aturally pr	oblematic?	(If ne	eded, explain any a	nswers in R	emarks.)		
SUMMARY OF FINDINGS - Attach site map s							tures,	etc.
Hydrophytic Vegetation Present? Yes (No								
		Is	the Sampled	Area				
	•		hin a Wetlaı		0 1	1o (•)		
Remarks:								
VEGETATION	A							
	Absolute % Cover	Species?	Indicator Status	Dominance Test				
1.Salix lasiolepis	80	Yes	FACW	Number of Domina That Are OBL, FA			((A)
2. Eucalyptus camaldulensis	5	No	FAC					
3. Washingtonia robusta	5	No	FACW	 Total Number of D Species Across A 		1	((B)
4.				•		-		
Total Covers	90 %			Percent of Domina That Are OBL, FA		: 100.	.0 %	(A/B)
Sapling/Shrub Stratum	20	Ma	T	Prevalence Index	workshoo	4.		
1.Cortaderia selloana 2.	30	No	FACU	Total % Cove		 Multiply	by:	
3.			-	OBL species	1 01.	x 1 =	0	
4.				FACW species	85	x 2 =	170	
5.				FAC species	5	x 3 =	15	
Total Cover:	30 %			FACU species	30	x 4 =	120	
Herb Stratum				UPL species		x 5 =	0	
1				Column Totals:	120	(A)	305	(B)
2.				Prevalence	Indox - P/A	_	251	
3.				Hydrophytic Veg			2.54	
4.				Dominance T				
5.				× Prevalence In				
6. 7.				Morphologica			supportir	na
8.			-			a separate s		
Total Cover:			_	Problematic F	lydrophytic \	Vegetation ¹ ((Explain))
Woody Vine Stratum	%							
1				¹ Indicators of hyd be present.	ric soil and	wetland hyd	rology n	nust
2								
Total Cover:	%			Hydrophytic Vegetation				
% Bare Ground in Herb Stratum $40~%$ % Cover	of Biotic C	Crust	%	Present?	Yes	No 🔘		
Remarks:								
I .								

SOIL Sampling Point: 9b_____

Depth	Matrix Color (moint)		Redox Features	2 Tandon 3	Damed -
(inches)	Color (moist)		Color (moist) % Type ¹ Loc		Remarks
0-0.5	_ <u>10 YR 2/1</u>			mucky sand	
0.5-8	7.5 YR 3/2	100		sand	
	-				
	_				
	_				
	Concentration, D=Dep				
			pam, Sandy Clay Loam, Sandy Loam, Clay unless otherwise noted.)		roblematic Hydric Soils:
Histoso		ile to all LKKS,	Sandy Redox (S5)		(A9) (LRR C)
	Epipedon (A2)		Stripped Matrix (S6)		(A10) (LRR B)
	Histic (A3)		Loamy Mucky Mineral (F1)	Reduced V	
	gen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Paren	t Material (TF2)
	ed Layers (A5) (LRR (C)	Depleted Matrix (F3)	Other (Exp	lain in Remarks)
	Muck (A9) (LRR D)	(4.4.1)	Redox Dark Surface (F6)		
	ed Below Dark Surfac	e (A11)	Depleted Dark Surface (F7)		
	Dark Surface (A12) Mucky Mineral (S1)		Redox Depressions (F8) Vernal Pools (F9)	⁴ Indicators of b	ydrophytic vegetation and
	Gleyed Matrix (S4)		Vernairi oois (i 9)		rology must be present.
	Layer (if present):				
Type:	, , ,				
Depth (i	nches):			Hydric Soil Pre	sent? Yes No 💿
. `	nches):			Hydric Soil Pre	sent? Yes No No
Depth (i Remarks:	nches):			Hydric Soil Pre	sent? Yes No No
. `	nches):			Hydric Soil Pre	sent? Yes No No
Remarks:	, 			Hydric Soil Pre	sent? Yes No •
Remarks:	DGY				
YDROLO Vetland H	OGY ydrology Indicators:			Secondary	y Indicators (2 or more required)
YDROLO Wetland H	DGY		nt)	Secondary	
YDROL(Wetland H Primary Inc. Surface	OGY ydrology Indicators: dicators (any one indicators)		Salt Crust (B11)	Secondary Water	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine)
YDROL(Wetland H Primary Inc. Surface	OGY ydrology Indicators: dicators (any one indic		Salt Crust (B11) Biotic Crust (B12)	Secondary Water Sedin	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine)
YDROLO Wetland H Primary Inc Surface High W Satura	ydrology Indicators: dicators (any one indicators (A1) water (A1) vater Table (A2) tion (A3)	ator is sufficie	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	Secondary Water Sedin Drift C	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10)
YDROLO Wetland H Primary Inc Surface High W Satura Water	OGY ydrology Indicators: dicators (any one indicators (A1) water Table (A2) tion (A3) Marks (B1) (Nonriver	cator is sufficient	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Secondary Water Sedin Drift [Draina	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) reason Water Table (C2)
YDROLO Wetland H Primary Inc Surface High W Satura Water Sedime	ydrology Indicators: dicators (any one indicators (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriverent Deposits (B2) (No	ine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living	Secondary Water Sedin Drift I Drains Dry-S Roots (C3) Thin M	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) neason Water Table (C2) Muck Surface (C7)
YDROLO Wetland H Primary Inc Surface High W Satura Water Sedime	ydrology Indicators: dicators (any one indice e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (No	ine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)	Secondary Water Sedin Drift L Drain: Dry-S Roots (C3) Thin M	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) leason Water Table (C2) Muck Surface (C7) ish Burrows (C8)
YDROLO Wetland High W Satura Water Sedime Drift De	ydrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriverent Deposits (B2) (Noeposits (B3) (Nonriverence Soil Cracks (B6)	ine) nriverine) rine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc	Secondary Water Sedin Drift D Drain: Dry-S Roots (C3) Crayfi	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) neason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9)
YDROLO Vetland H Primary Inc Surface High W Satura Water Sedime Drift De	ydrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriverent Deposits (B2) (Nonriverent Deposits (B3) (Nonriverent Deposits (B3) (Nonriverent Deposits (B3) (Nonriverent Deposits (B4) (Nonriv	ine) nriverine) rine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)	Secondary Water Sedin Drift D Drain: Dry-S Roots (C3) Thin N Crayfi Dils (C6) Satura	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) leason Water Table (C2) Muck Surface (C7) lish Burrows (C8) attion Visible on Aerial Imagery (CS) ow Aquitard (D3)
YDROLO Wetland H Primary Inc Surface High W Satura Water Sedime Drift De Surface Ununda Water-	ydrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriver) ent Deposits (B2) (No eposits (B3) (Nonrive) e Soil Cracks (B6) tition Visible on Aerial Stained Leaves (B9)	ine) nriverine) rine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc	Secondary Water Sedin Drift D Drain: Dry-S Roots (C3) Thin N Crayfi Dils (C6) Satura	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) neason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9)
YDROLO Vetland H Primary Inc Surface High W Satura Water Sedime Drift De Surface Inunda Water- Field Obse	ydrology Indicators: dicators (any one indice e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (No eposits (B3) (Nonrive e Soil Cracks (B6) attion Visible on Aerial Stained Leaves (B9)	ine) nriverine) rine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks)	Secondary Water Sedin Drift D Drain: Dry-S Roots (C3) Thin N Crayfi Dils (C6) Satura	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) leason Water Table (C2) Muck Surface (C7) lish Burrows (C8) attion Visible on Aerial Imagery (CS) ow Aquitard (D3)
YDROLO Vetland H Primary Inc Surface Water Sedime Drift De Surface Ununda Water- Field Obse	ydrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (No eposits (B3) (Nonrive e Soil Cracks (B6) ation Visible on Aerial Stained Leaves (B9) ervations: ater Present?	ine) nriverine) rine) Imagery (B7)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks)	Secondary Water Sedin Drift D Drain: Dry-S Roots (C3) Thin N Crayfi Dils (C6) Satura	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) leason Water Table (C2) Muck Surface (C7) lish Burrows (C8) attion Visible on Aerial Imagery (CS) ow Aquitard (D3)
YDROLO Wetland H Primary Inc Surface High W Satura Water Sedime Drift De Surface Inunda Water- Field Obse Surface Water Table	ydrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriver) ent Deposits (B2) (Nonriver) e Soil Cracks (B6) tion Visible on Aerial Stained Leaves (B9) ervations: ater Present? y	ine) nriverine) rine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks)	Secondary Water Sedin Drift D Drain: Dry-S Roots (C3) Thin N Crayfi Dils (C6) Satura	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) leason Water Table (C2) Muck Surface (C7) lish Burrows (C8) attion Visible on Aerial Imagery (CS) ow Aquitard (D3)
YDROLO Wetland H Primary Inc Surface High W Satura Vater Sedime Ununda Ununda Water- Field Obse Surface Water Table Saturation	DGY ydrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriver) ent Deposits (B2) (Nonriver) e Soil Cracks (B6) tion Visible on Aerial Stained Leaves (B9) ervations: ater Present? Present? Y	ine) nriverine) Imagery (B7) (es \(\) No	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks)	Secondary Water Sedin Drift L Drain: Dry-S Roots (C3) Thin M Crayfi Satura Shalla	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) eason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (CS ow Aquitard (D3) Neutral Test (D5)
YDROLO Wetland H Primary Inc Surface High W Satura Sedime Drift De Surface Inunda Water- Field Obse Surface Water Table Saturation includes ca	ydrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriver) ent Deposits (B2) (Nonriver) ent Deposits (B3) (Nonriver) e Soil Cracks (B6) tion Visible on Aerial Stained Leaves (B9) ervations: ater Present? Present? present? present?	ine) nriverine) rine) Imagery (B7) Yes \(\) No Yes \(\) No	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks)	Secondary Watel Sedin Drift D Drain: Dry-S Roots (C3) Thin N Crayfi Shalld FAC-I	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) eason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (CS ow Aquitard (D3) Neutral Test (D5)
YDROLO Wetland H Primary Inc Surface High W Satura Sedime Drift De Surface Inunda Water- Field Obse Surface Water Table Saturation includes ca	ydrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriver) ent Deposits (B2) (Nonriver) ent Deposits (B3) (Nonriver) e Soil Cracks (B6) tion Visible on Aerial Stained Leaves (B9) ervations: ater Present? Present? present? present?	ine) nriverine) rine) Imagery (B7) Yes \(\) No Yes \(\) No	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks)	Secondary Watel Sedin Drift D Drain: Dry-S Roots (C3) Thin N Crayfi Shalld FAC-I	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) eason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (CS ow Aquitard (D3) Neutral Test (D5)
YDROLO Wetland H Primary Inc Surface High W Satura: Water Sedime Drift De Surface Ununda Water- Field Obse Surface Water Table Saturation I includes ca	ydrology Indicators: dicators (any one indice e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (No eposits (B3) (Nonrive e Soil Cracks (B6) dition Visible on Aerial Stained Leaves (B9) ervations: ater Present? Present? Present? Apillary fringe) ecorded Data (stream	ine) nriverine) rine) Imagery (B7) Yes \ No Yes \ No	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary Watel Sedin Drift D Drain: Dry-S Roots (C3) Thin N Crayfi Shalld FAC-I	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) eason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9 by Aquitard (D3) Neutral Test (D5)
YDROLO Vetland H Primary Inc Surface High W Satura: Water Sedime Unift De Water- Field Obse Surface Water Table Saturation Includes ca	ydrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriver) ent Deposits (B2) (Nonriver) ent Deposits (B3) (Nonriver) e Soil Cracks (B6) tion Visible on Aerial Stained Leaves (B9) ervations: ater Present? Present? present? present?	ine) nriverine) rine) Imagery (B7) Yes \ No Yes \ No	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary Watel Sedin Drift D Drain: Dry-S Roots (C3) Thin N Crayfi Shalld FAC-I	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) eason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (CS ow Aquitard (D3) Neutral Test (D5)
YDROLO Vetland H Primary Inc Surface High W Satura: Water Sedime Unift De Water- Field Obse Surface Water Table Saturation Includes ca	ydrology Indicators: dicators (any one indice e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (No eposits (B3) (Nonrive e Soil Cracks (B6) dition Visible on Aerial Stained Leaves (B9) ervations: ater Present? Present? Present? Apillary fringe) ecorded Data (stream	ine) nriverine) rine) Imagery (B7) Yes \ No Yes \ No	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary Watel Sedin Drift D Drain: Dry-S Roots (C3) Thin N Crayfi Shalld FAC-I	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) eason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (CS ow Aquitard (D3) Neutral Test (D5)
YDROLO Vetland H Primary Inc Surface High W Satura: Water Sedime Unift De Water- Field Obse Surface Water Table Saturation Includes ca	ydrology Indicators: dicators (any one indice e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (No eposits (B3) (Nonrive e Soil Cracks (B6) dition Visible on Aerial Stained Leaves (B9) ervations: ater Present? Present? Present? Apillary fringe) ecorded Data (stream	ine) nriverine) rine) Imagery (B7) Yes \ No Yes \ No	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary Watel Sedin Drift D Drain: Dry-S Roots (C3) Thin N Crayfi Shalld FAC-I	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) eason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9 by Aquitard (D3) Neutral Test (D5)
YDROLO Vetland H Primary Inc Surface High W Satura Water Sedime Unift De Water- ield Obse Surface Water Table Saturation Includes ca	ydrology Indicators: dicators (any one indice e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (No eposits (B3) (Nonrive e Soil Cracks (B6) dition Visible on Aerial Stained Leaves (B9) ervations: ater Present? Present? Present? Apillary fringe) ecorded Data (stream	ine) nriverine) rine) Imagery (B7) Yes \ No Yes \ No	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary Watel Sedin Drift D Drain: Dry-S Roots (C3) Thin N Crayfi Shalld FAC-I	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) eason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C8) by Aquitard (D3) Neutral Test (D5)

Project/Site: Pure Water Program		City/Count	y:San Diego	o/San Diego	Sam	pling Date:09	9/27/20	16
Applicant/Owner: City of San Diego				State:CA	Sam	pling Point:90	2	
Investigator(s): Danielle Mullen, Katie Dayton		Section, To	ownship, Ra	nge: 31, 15S, 2W		_		
Landform (hillslope, terrace, etc.):		Local relie	ef (concave,	convex, none):Non	e	Slop	e (%):()	
Subregion (LRR):C - Mediterranean California	Lat:32.8	32		Long:-117.11		Datur	n:	
Soil Map Unit Name: Riverwash				NWI cla	assification:	None		
Are climatic / hydrologic conditions on the site typical for this ti	me of ye	ar? Yes	No C	(If no, explai	n in Remari	ks.)		
Are Vegetation Soil or Hydrology sign	nificantly	disturbed?	Are "	Normal Circumstan	ces" preser	nt? Yes 💿	No	0
Are Vegetation Soil or Hydrology nati	urally pro	oblematic?	(If ne	eded, explain any a	answers in f	Remarks.)		
SUMMARY OF FINDINGS - Attach site map sh	owing	samplin	g point lo	ocations, transe	ects, imp	ortant fea	itures,	etc.
Hydrophytic Vegetation Present? Yes (No	•							
Hydric Soil Present? Yes No	-	ls t	he Sampled	Area				
Wetland Hydrology Present? Yes No Remarks:	•	with	hin a Wetlar	nd? Yes	0	No ①		
VEGETATION								
	bsolute 6 Cover	Dominant Species?	Indicator Status	Dominance Test				
1. (Use scientific fiames.)	o Cover	_Species :	Status	Number of Domin That Are OBL, FA				(A)
2.						0. 0	,	(71)
3.				Total Number of I Species Across A		1		(B)
4.				Percent of Domin				` ′
Total Cover: Sapling/Shrub Stratum	%			That Are OBL, FA		_) % ((A/B)
1.Baccharis sarothroides	50	Yes	FACU	Prevalence Index	x workshe	et:		
2.Cortaderia selloana	30	No	FACU	Total % Cove	er of:	Multiply	by:	
3.				OBL species		x 1 =	0	
4.				FACW species		x 2 =	0	
5.				FAC species		x 3 =	0	
Total Cover:	80 %			FACU species	85	x 4 =	340	
	5	No	Nine I formal	UPL species	5	x 5 =	25	
1. Pseudognaphalium californicum 2. Ambrosia psilostachya	<u>5</u>	No	Not Listed FACU	Column Totals:	90	(A)	365	(B)
3.		110	FACU	Prevalence	Index = B/	A =	4.06	
4.				Hydrophytic Veg	etation Inc	licators:		
5.				Dominance T	est is >50%	0		
6.				Prevalence Ir	ndex is ≤3.0)1		
7.				Morphologica		ns¹ (Provide : n a separate		ng
8.				Problematic I			,	,
Total Cover: Woody Vine Stratum	10 %				iyal opiiyao	vogotation	(Explain,	, l
1.				¹ Indicators of hyd	Iric soil and	wetland hyd	Irology n	nust
2.				be present.				
Total Cover:	%			Hydrophytic Vegetation				
% Bare Ground in Herb Stratum30 % Cover of	f Biotic C	Crust	%	Present?	Yes 🔘	No 💿		
Remarks:				•				

SOIL Sampling Point: 9c Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) Texture³ (inches) Color (moist) % Type¹ Loc² 0-47.5 YR 3/2 100 loam ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix. 3Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) 1 cm Muck (A9) (LRR C) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) Redox Dark Surface (F6) 1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) ⁴Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) wetland hydrology must be present. Restrictive Layer (if present): Type:cobble Depth (inches):4 **Hydric Soil Present?** No (Yes (Remarks: Not able to dig deeper due to restrictive layer and cobbles. **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (2 or more required) Primary Indicators (any one indicator is sufficient) Water Marks (B1) (Riverine) Surface Water (A1) Salt Crust (B11) Sediment Deposits (B2) (Riverine) High Water Table (A2) Biotic Crust (B12) Drift Deposits (B3) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Thin Muck Surface (C7) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C6) Saturation Visible on Aerial Imagery (C9)

Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Shallow Aquitard (D3) Water-Stained Leaves (B9) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes (No (Depth (inches): Water Table Present? Yes (No (Depth (inches): Saturation Present? Depth (inches): Yes (No (Wetland Hydrology Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No hydrology because located on the bank above the non-vegetated channel. US Army Corps of Engineers Arid West - Version 11-1-2006

Project/Site: Pure Water Program		City/Count	y:San Diego	o/San Diego	Sam	pling Date:()9	9/27/20	16
Applicant/Owner: City of San Diego				State:CA	Sam	oling Point:1()	
Investigator(s): Danielle Mullen, Katie Dayton		Section, T	ownship, Rar	nge: 32, 15S, 2W		_		
Landform (hillslope, terrace, etc.):		Local relie	ef (concave, o	convex, none):Non	e	Slop	e (%):()	
Subregion (LRR):C - Mediterranean California	Lat:32.8	33		Long:-117.11		 Datun	n:	
Soil Map Unit Name: Redding cobbly loam dissected				NWI cla	assification:]	None		
Are climatic / hydrologic conditions on the site typical for this	time of ye	ar? Yes	No ((If no, explain	- n in Remark	(s.)		
		disturbed?		Normal Circumstan	ces" presen	t? Yes	No	\circ
	turally pro	oblematic?		eded, explain any a				
SUMMARY OF FINDINGS - Attach site map sh							tures,	etc.
Hydrophytic Vegetation Present? Yes No	0							
		ls t	he Sampled	Area				
Wetland Hydrology Present? Yes No Remarks:	0	wit	hin a Wetlan	d? Yes	0 1	No 💿		
VEGETATION								
	Absolute	Dominant	Indicator	Dominance Test	worksheet	:		
Tree Stratum (Use scientific names.)	% Cover	Species?	Status	Number of Domin				
1. Salix lasiolepis	80	Yes	FACW	That Are OBL, FA	CW, or FAC	2: 1		(A)
2				Total Number of D				
3				Species Across A	ll Strata:	1	((B)
4	80 %			Percent of Domina That Are OBL, FA			.0 %	(A/B)
Sapling/Shrub Stratum 1.Toxicodendron diversilobum	5	No	FACU	Prevalence Index	workshee	ıt·		
2.Cortaderia selloana	10	No	FACU	Total % Cove		Multiply	by:	
3.	10			OBL species		x 1 =	0	
4.				FACW species	80	x 2 =	160	
5.				FAC species		x 3 =	0	
Total Cover:	15 %			FACU species	15	x 4 =	60	
Herb Stratum				UPL species		x 5 =	0	
1.				Column Totals:	95	(A)	220	(B)
3.				Prevalence	Index = B/A	١ =	2.32	
4.				Hydrophytic Veg	etation Ind	icators:	2.32	
5.				× Dominance T	est is >50%)		
6.				× Prevalence Ir	ndex is ≤3.0	1		
7.				Morphologica		ns¹ (Provide s n a separate s		ng
8.				Problematic H			,	,
Total Cover: Woody Vine Stratum	%				.,	· ogotation		,
1				¹ Indicators of hyd be present.	ric soil and	wetland hyd	rology n	nust
2Total Cover:	%			Hydrophytic				
% Bare Ground in Herb Stratum % % Cover of		Crust	%	Vegetation Present?	Yes (•)	No (
Remarks:		<u> </u>			©			

SOIL

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)
Depth	Matrix	Redox Features				
(inches)	Color (moist)	%	Type¹	Loc²	Texture³	Remarks
0-3	7.5 YR 3/2	100	Sand			
3-6	10 YR 2/1	100	Loam	Loam		

(inches)	Color (moist)	%	Color (moist)		Type ¹	Loc ²	Textu	re ³	Remarks
0-3	7.5 YR 3/2	100					Sand		
3-6	10 YR 2/1	100					Loam		
	_								
	Concentration, D=Dep			² Location: P					
					ly Loam,	Clay Loa			, Silt Loam, Silt, Loamy Sand, Sand
Hydric Soil Histose	Indicators: (Applicat	ole to all LR	Rs, unless otherwise Sandy Redo	•					Problematic Hydric Soils: (A9) (LRR C)
	Epipedon (A2)		Stripped Ma	, ,					(A10) (LRR B)
	Histic (A3)			ky Mineral (F	F1)				/ertic (F18)
	gen Sulfide (A4)			ed Matrix (F					t Material (TF2)
Stratifi	ed Layers (A5) (LRR	C)	Depleted M	atrix (F3)				ther (Exp	olain in Remarks)
1 cm N	Muck (A9) (LRR D)		Redox Dark	Surface (F6	6)				
	ed Below Dark Surfac	ce (A11)		ark Surface (
	Dark Surface (A12)			ressions (F8)	5)		4		
	Mucky Mineral (S1) Gleyed Matrix (S4)		Vernal Poo	IS (F9)					ydrophytic vegetation and Irology must be present.
	Layer (if present):						1	riana ny c	ology maet se present
	illow roots and cob	bles							
, , , , , ,									
Depth (i	inches):6						Hydric	: Soil Pre	sent? Yes () NO (●)
	inches):6 The soil has a restri	ctive laye	r of cobbles and re	oots. It is di	ifficult t	o dig a s	1 -	Soil Pre	~ ~
Remarks: 7	The soil has a restri	ctive laye	r of cobbles and ro	oots. It is di	ifficult t	to dig a s	1 -		~ ~
Remarks: 7	The soil has a restri		r of cobbles and ro	oots. It is di	ifficult t	o dig a s	soil samp	ole deep	~ ~
Remarks: T	The soil has a restri	:		oots. It is di	ifficult t	o dig a s	soil samp	ole deepe	er than 6 inches.
Remarks: T IYDROLO Wetland H Primary Inc	The soil has a restri	:			ifficult t	o dig a s	soil samp	Secondar Wate	er than 6 inches. y Indicators (2 or more required)
Remarks: T	OGY ydrology Indicators: dicators (any one indicators (A1) Water Table (A2)	:	icient) Salt Crust Biotic Cru	(B11) st (B12)		o dig a s	soil samp	Secondar Wate Sedin	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine)
IYDROLO Wetland H Primary Inc Surfac High W	OGY Vydrology Indicators: dicators (any one indicators (A1) Vater Table (A2) ution (A3)	: cator is suff	icient) Salt Crust Biotic Crust Aquatic In	(B11) st (B12) vertebrates ((B13)	o dig a s	soil samp	Secondar Wate Sedin Drift I	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10)
IYDROLU Wetland H Primary Inc Surfac High W Satura Water	OGY Vydrology Indicators: dicators (any one indicators (A1) Vater Table (A2) tition (A3) Marks (B1) (Nonriver	: cator is suff	icient) Salt Crust Biotic Crust Aquatic In Hydrogen	(B11) st (B12) vertebrates (Sulfide Odor	(B13) r (C1)		soil samp	Secondar Wate Sedin Drift [Drain Dry-S	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Geason Water Table (C2)
IYDROLO Wetland H Primary Inc Surfac High W Satura Water Sedim	OGY Very Indicators Sidicators (any one indicators (any one indicators (A1)) Vater Table (A2) Intion (A3) Marks (B1) (Nonriver (B2)) Marks (B2) (Nonriver (B2))	: cator is suff rine) onriverine)	icient) Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F	(B11) st (B12) vertebrates (Sulfide Odor Rhizospheres	(B13) r (C1) s along L	iving Roo	soil samp	Secondar Wate Sedin Drift I Drain Dry-S Thin I	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Season Water Table (C2) Muck Surface (C7)
Remarks: T	OGY ydrology Indicators: dicators (any one indicators (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriverse) ent Deposits (B2) (Nonriverse) eposits (B3) (Nonriverse)	: cator is suff rine) onriverine)	icient) Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F	(B11) st (B12) vertebrates (Sulfide Odor Rhizospheres of Reduced I	(B13) r (C1) s along L Iron (C4)	iving Roc	soil samp	Secondar Wate Sedin Drift I Drain Dry-S Thin I Crayf	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Season Water Table (C2) Muck Surface (C7) ish Burrows (C8)
Netland H Primary Inc Surfac High W Satura Water Sedim Drift De Surfac	OGY Vydrology Indicators: dicators (any one indicators (A1) Vater Table (A2) Attion (A3) Marks (B1) (Nonriverse (B2) (Nonriverse (B3) (Nonriverse (B3) (Nonriverse (B6))	: cator is suff rine) onriverine)	icient) Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc	(B11) st (B12) vertebrates (Sulfide Odor Rhizospheres of Reduced I on Reduction	(B13) r (C1) s along L Iron (C4)	iving Roc	soil samp	Secondar Wate Sedin Drift I Drain Dry-S Thin I Crayf Satur	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Season Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9)
Nemarks: The state of the state	OGY Vydrology Indicators: dicators (any one indicators (any one indicators) Water Table (A2) Ition (A3) Marks (B1) (Nonrivelent Deposits (B2) (Norivelent Deposits (B3) (Nonrivelent Cracks (B6)) Water Soil Cracks (B6)	: cator is suff rine) onriverine)	icient) Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc	(B11) st (B12) vertebrates (Sulfide Odor Rhizospheres of Reduced I	(B13) r (C1) s along L Iron (C4)	iving Roc	soil samp	Secondar Wate Sedin Drift I Drain Crayf Satur Shall	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Beason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aquitard (D3)
Netland H Primary Inc Surfac High W Satura Water Sedim Drift D Surfac Inunda Water-	OGY Vydrology Indicators: dicators (any one indicators (any one indicators) Water Table (A2) Ition (A3) Marks (B1) (Nonriverse) Marks (B3) (Nonriverse) Marks (B3) (Nonriverse) Marks (B3) (Nonriverse) Marks (B3) (Nonriverse) Marks (B4) (Nonriverse) Marks (B5) (Nonriverse) Marks (B6) (Nonriverse)	: cator is suff rine) onriverine)	icient) Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc	(B11) st (B12) vertebrates (Sulfide Odor Rhizospheres of Reduced I on Reduction	(B13) r (C1) s along L Iron (C4)	iving Roc	soil samp	Secondar Wate Sedin Drift I Drain Crayf Satur Shall	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Season Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9)
HYDROLO Wetland H Primary Inc Surfac High W Satura Water Sedim Drift D Surfac Inunda Water- Field Obse	OGY Independent of the soil has a restrict of t	cator is suff rine) enriverine) erine)	icient) Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro	(B11) st (B12) vertebrates (Sulfide Odor Rhizospheres of Reduced I on Reduction blain in Rema	(B13) r (C1) s along L Iron (C4)	iving Roc	soil samp	Secondar Wate Sedin Drift I Drain Crayf Satur Shall	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Beason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aquitard (D3)
IYDROLO Wetland H Primary Inc Surfac High W Satura Water Sedime Drift De Surfac Inunda Water- Field Obse	OGY ydrology Indicators: dicators (any one indice e Water (A1) Vater Table (A2) tition (A3) Marks (B1) (Nonrivelent Deposits (B2) (Nonrivelent Deposits (B3) (Nonrivelent Deposits (B6) ation Visible on Aerial -Stained Leaves (B9) ervations: ater Present?	cator is suff rine) priverine) Imagery (B	icient) Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc Other (Exp	(B11) st (B12) vertebrates (Sulfide Odor Rhizospheres of Reduced I on Reduction blain in Rema	(B13) r (C1) s along L Iron (C4)	iving Roc	soil samp	Secondar Wate Sedin Drift I Drain Crayf Satur Shall	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Beason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aquitard (D3)
Netland H Primary Inc Surfac High W Satura Water Sedim Surfac Inunda Water- Field Obse Surface Water Table	OGY Vydrology Indicators: dicators (any one indicators (any one indicators) Water Table (A2) Ition (A3) Marks (B1) (Nonriverse) Marks (B3) (Nonriverse) Marks (B3) (Nonriverse) Marks (B4) (Nonriverse) Marks (B6) (Nonriverse) Marks (B6) (Nonriverse) Marks (B1) (Nonriverse	cator is suff rine) porriverine) lmagery (B	icient) Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc Other (Exp	(B11) st (B12) vertebrates (Sulfide Odor Rhizospheres of Reduced I on Reduction blain in Rema	(B13) r (C1) s along L Iron (C4)	iving Roc	soil samp	Secondar Wate Sedin Drift I Drain Crayf Satur Shall	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Beason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aquitard (D3)
Remarks: The state of the state	OGY ydrology Indicators: dicators (any one indice e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrivelent Deposits (B2) (Nonrivelent Deposits (B3) (Nonrivelent Deposits (B6) ation Visible on Aerial -Stained Leaves (B9) ervations: ater Present? Present? apillary fringe)	cator is suff rine) nriverine) Imagery (B	icient) Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc Other (Exp	(B11) st (B12) vertebrates (Sulfide Odor Rhizospheres of Reduced I on Reduction blain in Rema	(B13) r (C1) s along L Iron (C4) in Plowe arks)	iving Roo	ots (C3) [[C6) [Secondar Wate Sedin Drift I Drain Crayf Satur Shalle FAC-	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Beason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aquitard (D3)
Remarks: The state of the state	OGY Vydrology Indicators: dicators (any one indicators (any one indicators) Water Table (A2) Ition (A3) Marks (B1) (Nonriverse) Marks (B3) (Nonriverse) Marks (B3) (Nonriverse) Marks (B4) (Nonriverse) Marks (B6) Marks (B6) Marks (B6) Marks (B6) Marks (B6) Marks (B1) (Nonriverse) Marks (B2) (Nonriverse) Marks (B3) (Nonriverse) Marks (B1) (Nonriverse) Marks (B2) (Nonriverse) Marks (B3) (Nonriverse) Marks (B4) (Non	cator is suff rine) nriverine) Imagery (B	icient) Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc Other (Exp	(B11) st (B12) vertebrates (Sulfide Odor Rhizospheres of Reduced I on Reduction blain in Rema	(B13) r (C1) s along L Iron (C4) in Plowe arks)	iving Roo	ots (C3) [[C6) [Secondar Wate Sedin Drift I Drain Crayf Satur Shalle FAC-	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Beason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9) bw Aquitard (D3) Neutral Test (D5)
Remarks: The state of the state	OGY ydrology Indicators: dicators (any one indice e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrivelent Deposits (B2) (Nonrivelent Deposits (B3) (Nonrivelent Deposits (B6) ation Visible on Aerial -Stained Leaves (B9) ervations: ater Present? Present? apillary fringe)	cator is suff rine) nriverine) Imagery (B	icient) Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc Other (Exp	(B11) st (B12) vertebrates (Sulfide Odor Rhizospheres of Reduced I on Reduction blain in Rema	(B13) r (C1) s along L Iron (C4) in Plowe arks)	iving Roo	ots (C3) [[C6) [Secondar Wate Sedin Drift I Drain Crayf Satur Shalle FAC-	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Beason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9) bw Aquitard (D3) Neutral Test (D5)
Remarks: The state of the state	OGY ydrology Indicators: dicators (any one indice e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrivelent Deposits (B2) (Nonrivelent Deposits (B3) (Nonrivelent Deposits (B6) ation Visible on Aerial -Stained Leaves (B9) ervations: ater Present? Present? apillary fringe)	cator is suff rine) nriverine) Imagery (B	icient) Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc Other (Exp	(B11) st (B12) vertebrates (Sulfide Odor Rhizospheres of Reduced I on Reduction blain in Rema	(B13) r (C1) s along L Iron (C4) in Plowe arks)	iving Roo	ots (C3) [[C6) [Secondar Wate Sedin Drift I Drain Crayf Satur Shalle FAC-	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Beason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9) bw Aquitard (D3) Neutral Test (D5)
Remarks: The state of the state	OGY ydrology Indicators: dicators (any one indice e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrivelent Deposits (B2) (Nonrivelent Deposits (B3) (Nonrivelent Deposits (B6) ation Visible on Aerial -Stained Leaves (B9) ervations: ater Present? Present? apillary fringe)	cator is suff rine) nriverine) Imagery (B	icient) Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc Other (Exp	(B11) st (B12) vertebrates (Sulfide Odor Rhizospheres of Reduced I on Reduction blain in Rema	(B13) r (C1) s along L Iron (C4) in Plowe arks)	iving Roo	ots (C3) [[C6) [Secondar Wate Sedin Drift I Drain Crayf Satur Shalle FAC-	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Beason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9) bw Aquitard (D3) Neutral Test (D5)
Nemarks: The state of the state	OGY ydrology Indicators: dicators (any one indice e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonrivelent Deposits (B2) (Nonrivelent Deposits (B3) (Nonrivelent Deposits (B6) ation Visible on Aerial -Stained Leaves (B9) ervations: ater Present? Present? apillary fringe)	cator is suff rine) nriverine) Imagery (B	icient) Salt Crust Biotic Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc Other (Exp	(B11) st (B12) vertebrates (Sulfide Odor Rhizospheres of Reduced I on Reduction blain in Rema	(B13) r (C1) s along L Iron (C4) in Plowe arks)	iving Roo	ots (C3) [[C6) [Secondar Wate Sedin Drift I Drain Crayf Satur Shalle FAC-	y Indicators (2 or more required) r Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) Beason Water Table (C2) Muck Surface (C7) ish Burrows (C8) ation Visible on Aerial Imagery (C9) bw Aquitard (D3) Neutral Test (D5)

US Army Corps of Engineers

Project/Site: Pure Water Program		City/Count	y:San Dieg	o/San Diego	Sam	pling Date:	09/27/20	16
Applicant/Owner: City of San Diego				State:CA	Sam	pling Point:	11	
Investigator(s): Danielle Mullen, Katie Dayton		Section, T	ownship, Ra	nge: 32, 15S, 2W				
Landform (hillslope, terrace, etc.):		Local relie	ef (concave,	convex, none):Non	e	SI	ope (%):()	
Subregion (LRR):C - Mediterranean California	Lat:32.8	32		Long:-117.11		 Dat	um:	
Soil Map Unit Name: Riverwash				NWI cla	assification	Freshwater fo	orrested/shr	ub wetlar
Are climatic / hydrologic conditions on the site typical for this	time of ye	ar? Yes (No ((If no, explain	n in Remar	 ks.)		
		disturbed?		'Normal Circumstan	ces" presei	nt? Yes) No	\circ
		oblematic?		eeded, explain any a				
SUMMARY OF FINDINGS - Attach site map sl							eatures,	etc.
Hydrophytic Vegetation Present? Yes No								
Hydric Soil Present? Yes No	•	ls t	he Sampled	l Area				
Wetland Hydrology Present? Yes No Remarks:	•	wit	hin a Wetlaı	nd? Yes	0	No 💿		
VEGETATION								
	Absolute	Dominant	Indicator	Dominance Test	workshee	t:		
Tree Stratum (Use scientific names.)	% Cover	Species?	Status	Number of Domin	ant Specie	S		
1. Salix laevigata	80	Yes	FACW	That Are OBL, FA	CW, or FA	C:	1	(A)
2				Total Number of D				(5)
3				Species Across A	II Strata:		1	(B)
4Total Cover:	80 %			Percent of Domina		_	0.0	(A /D)
Sapling/Shrub Stratum	80 %			That Are OBL, FA	CVV, OI FA	C. IC	0.0%	(A/B)
1.Helminthotheca echioides	20	No	FACU	Prevalence Index		et:		
2.Lysimachia arvensis	1	No	FAC	Total % Cove	r of:	·	oly by:	-
3. <u>Brassica nigra</u>	3	No	Not Listed	OBL species	0.0	x 1 =	0	
4				FACW species FAC species	80	x 2 = x 3 =	160	
5 Total Cover:	24 %			FACU species	1	x 4 =	3 80	
Herb Stratum	24 %			UPL species	20	x 5 =	15	
1.				Column Totals:	104	(A)	258	(B)
2.			-	-		, ,		(-)
3.				Prevalence			2.48	
4				Hydrophytic Veg Dominance T				
5.				Dominance TPrevalence Ir				
6. 7.				Morphologica			e supporti	na
8.		-				n a separat		9
Total Cover:	%	-		Problematic F	Hydrophytic	Vegetation	n¹ (Explain	1)
Woody Vine Stratum	%							
1				¹ Indicators of hyd be present.	ric soil and	d wetland h	ydrology ı	must
Total Cover:	%			Hydrophytic Vegetation				
% Bare Ground in Herb Stratum 20 %	of Biotic C	Crust	%	Present?	Yes 💿	No (\circ	
Remarks:				1				

SOIL Sampling Point: 11 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) Color (moist) Type¹ Loc² Texture³ (inches) Remarks 100 0-4 10 YR 2/1 Clay loam 4-12 7.5 YR 3/2 100 Sandy clay loam ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix. 3Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Depleted Matrix (F3) Other (Explain in Remarks) Stratified Layers (A5) (LRR C) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) ⁴Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) wetland hydrology must be present.

Restrictive Layer (if present):	:								
Type:									
Depth (inches):				Ну	ydric Soil Present? Yes No No				
Remarks:									
HYDROLOGY									
Wetland Hydrology Indicator	s:				Secondary Indicators (2 or more required)				
Primary Indicators (any one inc		ent)			Water Marks (B1) (Riverine)				
Surface Water (A1)		<u> </u>	Salt Crust (B11)		Sediment Deposits (B2) (Riverine)				
High Water Table (A2)			Biotic Crust (B12)		Drift Deposits (B3) (Riverine)				
Saturation (A3)			Aquatic Invertebrates (B13)		Drainage Patterns (B10)				
Water Marks (B1) (Nonriv	erine)	Н	Hydrogen Sulfide Odor (C1)		Dry-Season Water Table (C2)				
Sediment Deposits (B2) (N	lonriverine)		Oxidized Rhizospheres along Liv	ing Roots (C					
Drift Deposits (B3) (Nonriv	verine)	П	Presence of Reduced Iron (C4)		Crayfish Burrows (C8)				
Surface Soil Cracks (B6)		П	Recent Iron Reduction in Plowed	Soils (C6)	Soils (C6) Saturation Visible on Aerial Imagery (C9)				
Inundation Visible on Aeria	al Imagery (B7)		Other (Explain in Remarks)		Shallow Aquitard (D3)				
Water-Stained Leaves (B9))				FAC-Neutral Test (D5)				
Field Observations:									
Surface Water Present?	Yes N	0 💿	Depth (inches):						
Water Table Present?	Yes O N	0 💿	Depth (inches):						
Saturation Present?	Yes N	0 (Depth (inches):	Wetlerel	Undralama Process 2 Vac Ala G				
(includes capillary fringe)	m gallag mon	itorina	well, aerial photos, previous inspe		Hydrology Present? Yes No No				
Describe Recorded Data (Strea	im gauge, mon	illoring	well, aeliai pilotos, previous ilispe	ctions), ii ava	allable.				
Remarks:									
US Army Corps of Engineers									
Co rainy Corps of Engineers									
					Arid West - Version 11-1-2006				

Project/Site: Pure Water Program	_ City/County:San Dieg	go/San Diego	Sampling Date:0	9/27/2016
Applicant/Owner: City of San Diego		State:CA	Sampling Point:1	2a
Investigator(s): Danielle Mullen, Katie Dayton	Section, Township, Ra	ange:	_	
Landform (hillslope, terrace, etc.):	Local relief (concave,	convex, none): None	Slo	pe (%):()
Subregion (LRR):C - Mediterranean California Lat:	_	Long:	 Datu	m:
Soil Map Unit Name: Gravel pits		NWI classifi	cation: Freshwate	r pond
Are climatic / hydrologic conditions on the site typical for this time of y	year? Yes No ((If no, explain in F	Remarks.)	
Are Vegetation Soil or Hydrology significant	ly disturbed? Are	"Normal Circumstances"	present? Yes	No 🔘
Are Vegetation Soil or Hydrology naturally p	problematic? (If ne	eeded, explain any answe	ers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showin				atures, etc.
Hydrophytic Vegetation Present? Yes No (
Hydric Soil Present? Yes No No	Is the Sampled	d Area		
Wetland Hydrology Present? Yes No No	within a Wetlan	nd? Yes 🔘	No 💿	
Remarks:This data station is located in open water.				
VEGETATION				
VEGETATION				
Absolute Tree Stratum (Use scientific names.) % Cove		Number of Dominant S		
1.		That Are OBL, FACW,	•	(A)
2.		- _ Total Number of Domii	nant	
3.		Species Across All Str		(B)
4.		- - Percent of Dominant S	inecies	
	%	That Are OBL, FACW,		% (A/B)
Sapling/Shrub Stratum 1.		Prevalence Index wo	rksheet.	
2.		Total % Cover of:	Multiply	v bv:
3.		OBL species	x 1 =	0
4.		FACW species	x 2 =	0
5.		FAC species	x 3 =	0
	%	FACU species	x 4 =	0
Herb Stratum		UPL species	x 5 =	0
1.		Column Totals:	(A)	0 (B)
2.		Prevalence Index	κ = B/A =	
4.		Hydrophytic Vegetati		
5.		Dominance Test is		
6.		Prevalence Index	is ≤3.0¹	
7.			aptations ¹ (Provide	
8.			s or on a separate	,
Total Cover:	<u></u>	Problematic Hydro	ophytic Vegetation ¹	(Explain)
Woody Vine Stratum		¹ Indicators of hydric se	oil and wetland by	drology must
1		be present.	on and wettand my	arology mast
2Total Cover:		Hydrophytic		
		Vegetation		
% Bare Ground in Herb Stratum % % Cover of Biotic	Crust	Present? Ye	es No 💿)
Remarks:				

SOIL Sampling Point: 12a Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) Color (moist) % Type¹ Loc² Texture³ (inches) ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix. ³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (**LRR C**) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18)

Hydrogen Suilide (A4)			Loamy Gleyed Matrix (F2)		Red Parent Material (1F2)		
Stratified Layers (A5) (L	RR C)		Depleted Matrix (F3)		Other (Explain in Remarks)		
1 cm Muck (A9) (LRR I	D)	П	Redox Dark Surface (F6)		_		
Depleted Below Dark S	urface (A11)	П	Depleted Dark Surface (F7)				
Thick Dark Surface (A1	2)	П	Redox Depressions (F8)				
Sandy Mucky Mineral (S1)	П	Vernal Pools (F9)		⁴ Indicators of hydrophytic vegetation and		
Sandy Gleyed Matrix (S	64)				wetland hydrology must be present.		
Restrictive Layer (if prese	nt):						
Type:							
Depth (inches):					Hydric Soil Present? Yes ● No ○		
Remarks: Soils were not s	sampled bec	ause the o	lata station is within open wa	ter. How	ever, hydric soils are assumed given the presence		
of standing wat	_		•				
Č							
HYDROLOGY							
Wetland Hydrology Indica	tors:				Secondary Indicators (2 or more required)		
Primary Indicators (any one	indicator is si	ufficient)			Water Marks (B1) (Riverine)		
X Surface Water (A1)			Salt Crust (B11)		Sediment Deposits (B2) (Riverine)		
High Water Table (A2)			Biotic Crust (B12)		Drift Deposits (B3) (Riverine)		
Saturation (A3)			Aquatic Invertebrates (B13)		Drainage Patterns (B10)		
Water Marks (B1) (Non	riverine)		Hydrogen Sulfide Odor (C1)		Dry-Season Water Table (C2)		
Sediment Deposits (B2)		م <u>ا</u>	Oxidized Rhizospheres along L	iving Poot			
_ ` ` `		⁼)		-			
Drift Deposits (B3) (Noi	,		Presence of Reduced Iron (C4)		Crayfish Burrows (C8)		
Surface Soil Cracks (B6	•	(Da)	Recent Iron Reduction in Plowe	ea Solis (C			
Inundation Visible on A		(B7)	Other (Explain in Remarks)		Shallow Aquitard (D3)		
Water-Stained Leaves	(B9)				FAC-Neutral Test (D5)		
Field Observations:			_				
Surface Water Present?	Yes	No 🔘	Depth (inches): 0				
Water Table Present?	Yes 💿	No 🔘	Depth (inches): 0				
Saturation Present?	Yes (No 🔘	Depth (inches): 0				
(includes capillary fringe)					nd Hydrology Present? Yes No		
Describe Recorded Data (st	ream gauge,	monitoring	well, aerial photos, previous insp	ections), if	available:		
Remarks:							
JS Army Corps of Engineers							
20 7 miny Corps of Engineers							
					Arid West - Version 11-1-2006		

Solf Map Unit Name: Rivervast Solf Map Unit Name: Rivervast Are climatic / hydrologic conditions on the site typical for this time of year? Yes	Project/Site: Pure Water Program				City/County:San Diego/San Diego				Sampling Date: <u>09/27/2016</u>		
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Nonc Slope (%): 0 Subregion (LRR)C - Mcditerrancan California Lat: Long: NWI classification: Freshwater pond Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) Are Vegetation Soil or Hydrology significantly disturbed? Are Vinormal Circumstances' present? Yes No No (If no, explain in Remarks.) Are Vegetation Soil or Hydrology in atturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, of the Vegetation Present? Yes No Is the Sampled Area within a Wetland? Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Species? Status 1. Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A. A. A	Applicant/Owner: City of San Diego				State:CA Sampling Point:12b			12b			
Solf Map Unit Name: Riverwast Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks) No (If no, explain in Remarks or If no No (If no, explain in Remarks) No (If no, explain in Remarks or If no No (If no, explain in Remarks) No (If no, explain in Remarks or If no No (If no, explain in Remarks or If no No (If no, explain in Remarks or If no No (If no, explain in Remarks or If no No (If no, explain in Remarks or If no No (If no, explain in Remarks or If no No (If no If no No (If no If no	investigator(s): Danielle Mullen, Katie	Dayton		Section, Township, Range:							
Solf Map Unit Name: Riverwast Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) No (If no, explain in Are marks.) No (If no, explain in Remarks.) No (If no, explain in Are marks.) No (If no, explain in Are no Normal Circumstances' present? Yes No (If no, explain in Are no Normal Circumstances' present? No (If no, explain in Are no Normal Circumstances' present? No (If no, explain in Are no Normal Circumstances' present? No (If no, explain in Are no Normal Circumstances' present? No (If no eded, explain any answers in Remarks.) No (If no eded, explain any answers in Remarks.) No (If no eded, explain any answers in Remarks.) No (If no eded, explain any answers in Remarks.) No (If no eded, explain any answers in Remarks.) No (If no eded, explain any answers in Remarks.) No (If no eded, explain any answers in Remarks. or no Normal Circumstances. No (If no eded, explain any answers in Remarks.) No (If no eded, explain any answers in Remarks. or no Normal Circumstances. No (If no eded, explain any answers in Remarks.) No (If no eded, explain any answers in Remarks. or no Normal Circumstances. No (If no eded,	Landform (hillslope, terrace, etc.):				-				ope (%):()		
Soil Map Unit Name: Riverwast Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any namewars in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, or hydrology No No No No No No No No No N	Subregion (LRR):C - Mediterranean Ca	ılifornia	Lat:	-		Long:		 Dat	um:		
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No (Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, of the Hydrophytic Vegetation Present? Yes No Within a Wetland? Yes No No No Vegetation Present? Yes No							assification				
Are Vegetation Soil or Hydrology Insturated? Are "Normal Circumstances" present? Yes No Are Vegetation Soil or Hydrology Insturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, or Hydrophytic Vegetation Present? Yes No Submitted Normal Soil Present? Yes No Submitted Normal Submitted N		site typical for this	s time of ve	ear? Yes	No.				er pond		
Are Vegetation Soil or Hydrology anaturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, or Hydrophytic Vegetation Present? Yes No Soil No Soil Present? Yes No No Soil Is the Sampled Area within a Wetland? Yes No Soil No Soil Present? Yes No No Soil						· · ·		,	No.	$\overline{}$	
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, or hydrophytic Vegetation Present? Yes No No Is the Sampled Area within a Wetland Pydrology Present? Yes No) 110		
Hydrophytic Vegetation Present? Yes No No Suttention and Present Present Note of No No Suttention and Present Note of No No Suttention and Present Note of No No No Suttention and Present Note of No											
Hydric Soil Present? Yes No Is the Sampled Area within a Wetland? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No Wetland?	SUMMARY OF FINDINGS - Atta	ach site map s	showing	ı sampl	ing point l	ocations, trans	ects, im	portant fe	eatures,	etc.	
Hydric Soil Present? Yes No Is the Sampled Area within a Wetland? Yes No Wetland Pydrology Present? Yes No Wetland? Yes No Wetla	Hydrophytic Vegetation Present?	Yes 🕟 N	0.								
Wetland Hydrology Present? Yes No within a Wetland? Yes No © Remarks: WEGETATION Absolute % Cover 1 Dominant Indicator Species Dominant Indicator Species Dominant Indicator Species Number of Dominant Species Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A 2. 3. 4. Species Aross All Strata: 1 (E 4. Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A (A 1.Typha domingensis 100 Yes OBL Prevalence Index worksheet: Total % Cover of: Multiply by: 100.0 % (A OBL species 100 x 1 = 100.0 % (A A A A Prevalence Index worksheet: Total % Cover of: Multiply by: 100.0 % (A A A A A A A B A B A A A B A B A A B A B A A A B A B A B A B A B B A B B A B B A<		~		Is	s the Sample	d Area					
Absolute	Wetland Hydrology Present?	Yes N	0 0		_			No (•)			
Absolute Species Status Statu	Remarks:										
Absolute Species Status Statu											
Absolute											
Absolute Species Status Status Species Status S											
Tree Stratum (Use scientific names.) % Cover Species? Status That Are OBL, FACW, or FAC: (A 2. 3. Total Number of Dominant Species That Are OBL, FACW, or FAC: 1 (E 4. Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (E Sapling/Shrub Stratum Total Cover: % OBL 1. Typha domingensis 100 Yes OBL Prevalence Index worksheet: 2. Total % Cover of: Multiply by: 3. OBL species 100 x 1 = 100 x 1 = 100 4. FACW species x 2 = 0 FACW species x 3 = 0 FACU species x 3 = 0 FACU species x 4 = 0 UPL species x 4 = 0 UPL species x 5 = 0 Column Totals: 100 (A) 100 2. Hydrophytic Vegetation Indicators: 5. Hydrophytic Vegetation Indicators: 5. Hydrophytic Vegetations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 1. Total Cover: % Hydrophytic	VEGETATION										
1. That Are OBL, FACW, or FAC: 1 (A 2. Total Number of Dominant Species 3. Species Across All Strata: 1 (E 4. Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A 1. Typha domingensis 100 Yes OBL 2. Total Cover: % 3. OBL species 100 x1 = 100 4. FACW species x2 = 0 5. FAC species x3 = 0 FAC species x3 = 0 FACU species x4 = 0 UPL species x5 = 0 UPL species x5 = 0 Column Totals: 100 (A) 100 Prevalence Index = B/A = 1.00 4. Hydrophytic Vegetation Indicators: x5 = 0 5. Dominance Test is >50% 6. X Prevalence Index is ≤3.0¹ 7. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) Woody Vine Stratum ¹Indicators of hydric soil and wetland hydrology me be present. Total Cover: % Hydrophytic	Troo Stratum (Lleo eciontific names)										
2.			76 COVEI	Species	S! Status				1 /	(
Total Cover Species Across All Strata: 1 (ESpecies Across All Strata: 1 (ESSpecies Across Across All Strata: 1 (ESSpecies Across Across All Strata: 1 (ESSpecies Across			-	-		- Illat Ale OBL, FA	ACVV, OI FA	10.	1	(Α)	
4.									1 /	(B)	
Total Cover Sapling/Shrub Stratum 1.Typha domingensis 100 Yes						- Openies Across F	iii Otrata.		1	(0)	
1. Typha domingensis 100 Yes 0BL Prevalence Index worksheet: Total % Cover of: Multiply by:	·	Total Cove	r. %					_	0.00/	(A/B)	
Total % Cover of: Multiply by:	Sapling/Shrub Stratum	10141 0010	70			That Aic OBE, 17	10 VV, 01 1 P	10.	0.0%	(,7,10)	
OBL species 100 x 1 = 100	1. Typha domingensis		100	Yes	OBL	_					
4.						_					
5. FAC species x 3 = 0 FACU species x 4 = 0 UPL species x 5 = 0 Column Totals: 100 (A) 100 Prevalence Index = B/A = 1.00 Hydrophytic Vegetation Indicators: X Dominance Test is >50% X Prevalence Index is ≤3.0¹ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) 1. ¹Indicators of hydric soil and wetland hydrology me be present. 1. Total Cover: % Hydrophytic						1	100				
Total Cover: 100% Herb Stratum 1.						_					
Herb Stratum 1.	5	Total Cayou	1000/			-					
1. Column Totals: 100 (A) 100 2. Prevalence Index = B/A = 1.00 4. Hydrophytic Vegetation Indicators: 5. Dominance Test is >50% ★ Prevalence Index is ≤3.0¹ 7. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 8. Droblematic Hydrophytic Vegetation¹ (Explain) Total Cover: % Woody Vine Stratum 1. 1 Indicators of hydric soil and wetland hydrology makes the present. Total Cover: % Hydrophytic	Herb Stratum	Total Cover	100%			1					
2. 3. Prevalence Index = B/A = 1.00 4. Hydrophytic Vegetation Indicators:	1.						100			(B)	
Hydrophytic Vegetation Indicators: Solution Stratum Stratum	2.					_ Column Totals.	100	(14)	100	(5)	
5.	3.					Prevalence	Index = B	/A =	1.00		
6. 7. 8. Total Cover: Woody Vine Stratum 1. 1. Total Cover: Total Cover: Woody Vine Stratum 1. Total Cover: Total Cover: Whydrophytic Hydrophytic Hydrophytic Hydrophytic	4.										
7. 8. Total Cover: Woody Vine Stratum 1. 2. Total Cover: Whorphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology make the present. Hydrophytic	5.										
8. Total Cover: Woody Vine Stratum 1.	6					•					
Total Cover: Woody Vine Stratum 1. 2. Total Cover: % Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology may be present. Hydrophytic Hydrophytic										ng	
Woody Vine Stratum 1. 2. Total Cover: Woody Vine Stratum 1 Indicators of hydric soil and wetland hydrology may be present. Hydrophytic	8							•	,)	
1. 2. Indicators of hydric soil and wetland hydrology may be present. Total Cover: % Hydrophytic	Woody Vine Stratum	Total Cover	r: %								
Total Cover: % Hydrophytic						¹ Indicators of hyd	dric soil an	d wetland h	ydrology n	nust	
	2.					be present.					
Vegetation		Total Cover	r: %								
			- (D'- ('- (?m.ot	0/	Vegetation	Voc G	No (_		
Remarks:	% Bare Ground in Herb Stratum	% Cover	LOT RIUTIC (JIUSI							

US Army Corps of Engineers

SOIL Sampling Point: 12bProfile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth (inches) Redox Features Color (moist) Color (moist) % Type¹ Loc² Texture³ Remarks

¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC	E=Root Channel, M=Matrix.			
³ Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loan				
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils:			
Histosol (A1) Sandy Redox (S5)	1 cm Muck (A9) (LRR C)			
Histic Epipedon (A2) Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)			
Black Histic (A3) Loamy Mucky Mineral (F1)	Reduced Vertic (F18)			
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Dental Matrix (F2)	Red Parent Material (TF2)			
Stratified Layers (A5) (LRR C) Depleted Matrix (F3) A are Much (A0) (LRR R)	Other (Explain in Remarks)			
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)				
Thick Dark Surface (A12) Redox Depressions (F8)				
Sandy Mucky Mineral (S1) Vernal Pools (F9)	⁴ Indicators of hydrophytic vegetation and			
Sandy Gleyed Matrix (S4)	wetland hydrology must be present.			
Restrictive Layer (if present):				
Type:				
Depth (inches):	Hydric Soil Present? Yes No			
Remarks: Soils were not sampled due to access restrictions, including open water and	d dense vegetation. Hydric soil is assumed			
because the soil supports freshwater marsh and obligate species.				
HYDROLOGY				
Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)			
Primary Indicators (any one indicator is sufficient)	Water Marks (B1) (Riverine)			
X Surface Water (A1) Salt Crust (B11)	Sediment Deposits (B2) (Riverine)			
High Water Table (A2) Biotic Crust (B12)	Drift Deposits (B3) (Riverine)			
Saturation (A3) Aquatic Invertebrates (B13)	Drainage Patterns (B10)			
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)			
Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Root	ots (C3) Thin Muck Surface (C7)			
Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4)	Crayfish Burrows (C8)			
Surface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C	C6) Saturation Visible on Aerial Imagery (C9)			
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)	Shallow Aquitard (D3)			
Water-Stained Leaves (B9)	FAC-Neutral Test (D5)			
Field Observations:				
Surface Water Present? Yes No Depth (inches): 0				
Water Table Present? Yes No Depth (inches):				
Saturation Present? Yes No Depth (inches): Wetla	nd Hydrology Present? Yes No			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if				
Remarks:				
LIS Among Come of Engineers				
US Army Corps of Engineers				
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Project/Site: Pure Water Program		City/Count	y:San Dieg	go/San Diego	San	npling Date:	09/27/20	16
Applicant/Owner: City of San Diego				State:CA	San	npling Point:	12c	
Investigator(s): Danielle Mullen, Katie Dayton		Section, T	ownship, Ra	ange:		-		
Landform (hillslope, terrace, etc.):		Local relie	ef (concave,	convex, none):None	e	Sle	ope (%):()	
Subregion (LRR):C - Mediterranean California	Lat:	•		Long:		Date	um:	
Soil Map Unit Name: Riverwash				NWI cla	assification	: Freshwater f	orrested/shr	ub wetlan
Are climatic / hydrologic conditions on the site typical for thi	s time of ye	ear? Yes (No ((If no, explain	in Remar	ks.)		
Are Vegetation Soil or Hydrology	significantly	disturbed?	Are	"Normal Circumstan	ces" prese	nt? Yes (•	No	0
Are Vegetation Soil or Hydrology	naturally pro	oblematic?	(If n	eeded, explain any a	nswers in	Remarks.)		
SUMMARY OF FINDINGS - Attach site map	showing	samplin	g point l	ocations, transe	ects, im	portant fe	atures,	etc.
Hydrophytic Vegetation Present? Yes N	lo 🔘							
	lo 🔵	ls t	he Sample	d Area				
	lo 🔘		hin a Wetla		\circ	No 💿		
Remarks: The data station was taken in arundo-dom	inated rip	arian habi	tat within	the San Diego Riv	er (see m	ap 24).		
VEGETATION								
Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?		Dominance Test				
1.				Number of Domin That Are OBL, FA			1 ((A)
2.				_				` '
3.	-			 Total Number of E Species Across A 			1	(B)
4.				Percent of Domina	ant Chaoin	0		`
Total Cove	er: %			That Are OBL, FA		_	0.0 %	(A/B)
Sapling/Shrub Stratum	100	37		Prevalence Index	worksho			
1.Arundo donax 2.	100	Yes	FACW	Total % Cove		Multip	ly by:	
3.				OBL species		x 1 =	0	
4.	-			FACW species	100	x 2 =	200	
5.				FAC species		x 3 =	0	
Total Cove	r: 100%			FACU species		x 4 =	0	
Herb Stratum				UPL species		x 5 =	0	
1.				Column Totals:	100	(A)	200	(B)
2	_			Prevalence	Index - B	/Δ —	2.00	
3. 4.	_			Hydrophytic Veg			2.00	
5.	-			→ Dominance T				
6.				Y Prevalence Ir				
7.				Morphologica		ons¹ (Provide on a separate		ng
8.				Problematic H		•	,	,
Total Cove Woody Vine Stratum	r: %				iyaropiiya	vogotation	(Explain)	'
1.				¹ Indicators of hyd	ric soil an	d wetland h	ydrology n	nust
2.				be present.				
Total Cove	r: %			Hydrophytic				
% Bare Ground in Herb Stratum % % Cove	r of Biotic C	Crust	%	Vegetation Present?	Yes (•)	No (
Remarks:								

SOIL Sampling Point: 12c Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Color (moist) Loc² Texture³ (inches) Color (moist) Type¹ ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix. 3Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) 1 cm Muck (A9) (LRR C) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) Redox Dark Surface (F6) 1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) ⁴Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) wetland hydrology must be present. Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** Yes 💿 No (Remarks: The data station is within an impenetrable stand of Arundo donax. There was no access to collect a soil sample, however hydric soils are assumed given the presence within San Diego River and adjacent freshwater marsh and open water and presence of facultative wetland species. **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (2 or more required) Primary Indicators (any one indicator is sufficient) Water Marks (B1) (Riverine) Surface Water (A1) Salt Crust (B11) Sediment Deposits (B2) (Riverine) High Water Table (A2) Biotic Crust (B12) Drift Deposits (B3) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Thin Muck Surface (C7) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) X Surface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Shallow Aquitard (D3) Water-Stained Leaves (B9) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes (No (Depth (inches): Water Table Present? Yes (No (Depth (inches):

Saturation Present? Depth (inches): Yes (No (Wetland Hydrology Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: US Army Corps of Engineers Arid West - Version 11-1-2006

Project/Site: Pure Water Program		City/Count	y:San Diego	o/San Diego	Samp	ling Date:()9	/28/20	16
Applicant/Owner: City of San Diego				State:CA	Samp	ling Point:13		
Investigator(s): Katie Dayton, Danielle Mullen		Section, To	ownship, Rar	nge: 30, 15S, 1W		_		
Landform (hillslope, terrace, etc.): Flat		Local relie	f (concave, o	convex, none):None)	Slope	e (%):()	
Subregion (LRR):C - Mediterranean California	Lat:32.8	34		Long:-117.02		 Datum	1:	
Soil Map Unit Name: Riverwash				NWI cla	ssification:]	None		
Are climatic / hydrologic conditions on the site typical for this	time of ye	ear? Yes	No ((If no, explain	in Remarks	s.)		
Are Vegetation Soil or Hydrology sig	gnificantly	disturbed?	Are "	Normal Circumstand	es" present	? Yes 💿	No	0
Are Vegetation Soil or Hydrology na	aturally pro	oblematic?	(If ne	eded, explain any ar	nswers in Re	emarks.)		
SUMMARY OF FINDINGS - Attach site map s	howing	samplin	g point lo	cations, transe	cts, impo	ortant feat	lures,	etc.
Hydrophytic Vegetation Present? Yes (No								
	•	ls t	he Sampled	Area				
Wetland Hydrology Present? Yes No	•	witl	hin a Wetlan	d? Yes	O N	o		
Remarks:								
VEGETATION								
	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test				
1.Salix gooddingii	50	Yes	FACW	Number of Domina That Are OBL, FAG		: 2		(A)
2.Populus fremontii	$\frac{30}{20}$	Yes	Not Listed	That Ale Obl., I A	CVV, OI I AC	·	,	(^)
3.		103		Total Number of D Species Across All		2		(B)
4.				Species Across Air	i Siraia.	3	,	(6)
Total Cover:	70 %			Percent of Domina That Are OBL, FAG		66.7	1 0/- ((A/B)
Sapling/Shrub Stratum	, 0 , 1						70 ((7,70)
1. Baccharis salicifolia	20	Yes	FAC	Prevalence Index				
2.Baccharis pilularis	5	No	Not Listed	Total % Cover		Multiply		
3				OBL species		x 1 =	0	
4				FACW species	50	x 2 =	100	
5	25.04			FAC species FACU species	20	x 3 = x 4 =	60	
Total Cover: Herb Stratum	25 %			UPL species		x 5 =	0	
1.Brassica nigra (dead)	20	No	Not Listed	Column Totals:	45		225	(B)
2.Helminthotheca echioides (dead)			FACU	Column Totals:	115	(A)	385	(6)
3.				Prevalence I	ndex = B/A	=	3.35	
4.				Hydrophytic Vege	etation Indi	cators:		
5.				★ Dominance Tell T	est is >50%			
6.				Prevalence In				
7.				Morphological		s¹ (Provide s a separate s		ng
8				Problematic H		•	,	,
Total Cover: Woody Vine Stratum	20 %				. y a. op y o	· ogotation (´
1.				¹ Indicators of hydr	ic soil and	wetland hydi	rology r	nust
2.				be present.		·	0,	
Total Cover:	%			Hydrophytic				
		ruot	0/	Vegetation	Vac G	No. O		
	טוטונט נ	uət 	<u>%</u>	Present?	Yes	No 🔘		
Remarks:								

SOIL Sampling Point: 13 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Loc² __Texture³ (inches) Color (moist) Color (moist) % Type¹ Remarks 0-16 10 YR 4/2 100 Sand ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

³ Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.							
Hydric Soil Indicators: (Applicable to all LRRs,	unless otherwise noted.)	Indicators for Problematic Hydric Soils:					
Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)					
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)					
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)					
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)					
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)					
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	_					
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)						
Thick Dark Surface (A12)	Redox Depressions (F8)						
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	⁴ Indicators of hydrophytic vegetation and					
Sandy Gleyed Matrix (S4)		wetland hydrology must be present.					
Restrictive Layer (if present):							
Туре:	_						
Depth (inches):		Hydric Soil Present? Yes No No					
Remarks:							
ANDROL OCY							
HYDROLOGY							
Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)					
Primary Indicators (any one indicator is sufficient	nt)	Water Marks (B1) (Riverine)					
Surface Water (A1)	Salt Crust (B11)	Sediment Deposits (B2) (Riverine)					
High Water Table (A2)	Biotic Crust (B12)	□ Drift Deposits (B3) (Riverine)					
Saturation (A3)	Aquatic Invertebrates (B13)	Drainage Patterns (B10)					
Water Marks (B1) (Nonriverine)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)					
Sediment Deposits (B2) (Nonriverine)	Oxidized Rhizospheres along Living Roo	ets (C3) Thin Muck Surface (C7)					
Drift Deposits (B3) (Nonriverine)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)					
Surface Soil Cracks (B6)	Recent Iron Reduction in Plowed Soils (0	` '					
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Shallow Aquitard (D3)					
Water-Stained Leaves (B9)	Other (Explain in Remarks)	FAC-Neutral Test (D5)					
Field Observations:		TAC-Neutral Test (D3)					
	C Donth (inches):						
	<u> </u>						
Water Table Present? Yes No							
Saturation Present? Yes No (includes capillary fringe)	Depth (inches): Wetla	and Hydrology Present? Yes No .					
Describe Recorded Data (stream gauge, monitor							
, , ,							
Remarks:							
JS Army Corps of Engineers							
		Arid West - Version 11-1-2006					

Project/Site: Pure Water Program		City/Coun	ty:San Dieg	go/San Diego	Sar	npling Date:	09/28/20	16
Applicant/Owner: City of San Diego				State:CA	San	npling Point:	14a	
Investigator(s): Danielle Mullen, Katie Dayton		Section,	Γownship, Ra	ange: 30, 15S, 1W		•		
Landform (hillslope, terrace, etc.):		Local reli	ef (concave,	convex, none): None	2	SI	ope (%):()	
Subregion (LRR):C - Mediterranean California	Lat:32.	33		Long:-117.02		 Dat	um:	
Soil Map Unit Name: Riverwash				NWI cla	ssification	n: Freshwater f	orrested/shr	ub wetlan
Are climatic / hydrologic conditions on the site typical for th	is time of ye	ear? Yes (No ((If no, explain	in Remar	ks.)		
Are Vegetation Soil or Hydrology	significantly	disturbed	? Are	"Normal Circumstan	ces" prese	ent? Yes) No	\circ
	naturally pr	oblematic?		eeded, explain any a				
SUMMARY OF FINDINGS - Attach site map							eatures,	etc.
Hydrophytic Vegetation Present? Yes	No 🔘							
	No 🔵	Is	the Sample	d Area				
Wetland Hydrology Present? Yes Remarks:	No 🔘	wi	thin a Wetla	nd? Yes	•	No 🔘		
Remarks.								
VEGETATION								
VEGETATION	Absolute	Dominon	t Indicator	Dominance Test	workshoe	.4.		
Tree Stratum (Use scientific names.)	% Cover	Species		Number of Domina				
1.Salix gooddingii	60	Yes	FACW	That Are OBL, FA			4 ((A)
2.				Total Number of D	ominant			
3				Species Across A			4 ((B)
4				Percent of Domina	ant Specie	es.		
Total Coving Sapling/Shrub Stratum	er: 60 %			That Are OBL, FA	CW, or FA	AC: 10	0.0%	(A/B)
1.Baccharis salicifolia	20	No	FAC	Prevalence Index	workshe	et:		
2.				Total % Cove	r of:	Multip	oly by:	.
3.	_			OBL species	30	x 1 =	30	
4.				FACW species	95	x 2 =	190	
5.				FAC species	20	x 3 =	60	
Total Cove	er: 20 %			FACU species		x 4 =	0	
Herb Stratum	20	Vac	ODI	UPL species		x 5 =	0	
1.Nasturtium officinale 2.Cyperus eragrostis	$-\frac{30}{30}$	Yes Yes	OBL FACW	_ Column Totals:	145	(A)	280	(B)
3. Oenothera elata	$-\frac{30}{5}$	Yes	FACW	Prevalence	ndex = B	/A =	1.93	
4.			- TACW	Hydrophytic Veg	etation In	dicators:		
5.				→ Dominance T	est is >50°	%		
6.		-		→ Prevalence In	dex is ≤3.	0 ¹		
7.				Morphologica		ons¹ (Provide on a separat		ng
8.				Problematic H		•	,	,
Total Cove	er: 65 %			Troblematic r	iyaropityti	c vegetation	i (Explain)	,
Woody Vine Stratum 1.				¹ Indicators of hyd	ric soil an	d wetland h	vdroloav n	nust
2.				be present.			,	
Total Cove	er: %			Hydrophytic				
% Bare Ground in Herb Stratum % % Cove	er of Biotic (Crust	%	Vegetation Present?	Yes (•)	No (
Remarks:				. 10001111	103 (6)	110 (
Tomane.								

SOIL Sampling Point: 14a

(inches) Color (moist) % Color (moist) % Type¹ Loc² Texture³ Remarks (i) 4 I (i) YR 3/2 100 Saudy clay loam 4-12 7.5 YR 2.5/1 100 Clay from Type: C=Concentration, D=Depletion, RM=Reduced Matrix. *Location: PL=Pore Lining, RC=Root Channel, M=Matrix. *Soil Textures: Clay, Sity Clay, Sandy Clay, Loam, Sandy Clay Loam, Sity Clay Loam, Sity Loam, Sity Clay L	Depth	Matrix	to the depth ne	eeded to document the indicator Redox Features		n the absence of Indi	cators.)
Type: C=Concentration, D=Depletion, RM=Reduced Matrix. **Location: PL=Pore Lining, RC=Root Channel, M=Matrix. **Soil Textures: Clay, Sity Clay, Sandy Clay, Loam, Sandy Loam, Sandy Loam, Clay Loam, Sity Clay Loam, Sit Loamy Sand, Sand, Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise notice). ##Hydric Soil indicators: (Applicable to all LRRs, unless otherwise notice). ##Hydric Soil indicators: (Applicable to all LRRs, unless otherwise notice). ##Hydric Soil indicators: (Applicable to all LRRs, unless otherwise notice). ##Hydric Soil indicators: (Applicable to all LRRs, unless otherwise notice). ##Hydric Soil indicators: (Applicable to all LRRs, unless otherwise notice). ##Hydric Soil indicators: (Applicable to all LRRs, unless otherwise notice). ##Hydric Soil indicators: (Applicable to all LRRs, unless otherwise notice). ##Hydric Soil indicators: (Applicable to all LRRs, unless otherwise notice). ##Hydric Soil indicators: (Applicable to all LRRs, unless otherwise notice). ##Hydric Soil indicators: (Applicable to all LRRs, unless otherwise notice). ##Hydric Soil indicators: (Applicable to all LRRs, unless otherwise notice). ##Hydric Soil indicators: (Applicable to all LRRs, unless otherwise notice). ##Hydric Soil indicators: (Applicable to all LRRs, unless otherwise notice). ##Hydric Soil indicators: (Applicable to all LRRs, unless otherwise notice). ##Hydric Soil indicators: (Applicable to all LRRs, unless otherwise notice). ##Hydric Soil indicators: (Applications of hydrophytic vagetation and wetland hydrology must be present.) ##Hydric Soil indicators: (Applications of hydrophytic vagetation and wetland hydrology indicators: (Applications of hydrophytic vagetation and wetland hydrolog	(inches)	Color (moist)	% C	olor (moist) % Type ¹	Loc ²	Texture ³	Remarks
Type: C=Concentration, D=Depletion, RM=Reduced Matrix. *Location: PL=Pore Lining, RC=Root Channel, M=Matrix. *Soil Textures: Clay, Sity Clay, Clay, Sandy Clay, Loam, Sandy Loam, Sandy Loam, Clay Loam, Sity Clay Loam, Sit, Loamy Sand, Sand, Mydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosoil (A1)	0-4	10 YR 3/2	100			Sandy clay loam	
*Soil Textures: Clay, Sitly Clay, Sandy Clay, Loam, Sandy Clay Loam, Sitly Clay Loam, Sitl, Clay, Loam, Loam	4-12	7.5 YR 2.5/1	100			Clay loam	
*Soil Textures: Clay, Sitly Clay, Sandy Clay, Loam, Sandy Clay Loam, Sitly Clay Loam, Sitl, Clay, Loam, Loam							
*Soil Textures: Clay, Sitly Clay, Sandy Clay, Loam, Sandy Clay Loam, Sitly Clay Loam, Sitl, Clay, Loam, Loam							
*Soil Textures: Clay, Sitly Clay, Sandy Clay, Loam, Sandy Clay Loam, Sitly Clay Loam, Sitl, Clay, Loam, Loam		-					
*Soil Textures: Clay, Sitly Clay, Sandy Clay, Loam, Sandy Clay Loam, Sitly Clay Loam, Sitl, Clay, Loam, Loam		-					
*Soil Textures: Clay, Sitly Clay, Sandy Clay, Loam, Sandy Clay Loam, Sitly Clay Loam, Sitl, Clay, Loam, Loam		-					
*Soil Textures: Clay, Sitly Clay, Sandy Clay, Loam, Sandy Clay Loam, Sitly Clay Loam, Sitl, Clay, Loam, Loam		-					
*Soil Textures: Clay, Sitly Clay, Sandy Clay, Loam, Sandy Clay Loam, Sitly Clay Loam, Sitl, Clay, Loam, Loam							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		•			_		
Histosol (A1) Histosol (A2) Histosol (A2) Stripped Matrix (S6) Black Histo (A2) Hydrogen Sulfide (A4) Hydric Soil Present? Hydric Soil Present? Hydric Soil Present? Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Hydrogen Sulfide Odor (C1) Surface Water Rasks (B3) Hydrogen Sulfide Odor (C1) Surface Soil Cracks (B6) Hydrogen Sulfide Odor (C1) Hydrogen Sulfide Odor (C1) Surface Soil Cracks (B6) Recent Iron Reduction in Please Soil Cash Sulface (C7) Thin Rubbar Sulface (C7) Hydrogen Sulfide Odor (C1) Surface Soil Cracks (B6) Recent Iron Reduction in Please Soil Cash Sulface (C7) Thin Rubbar Sulface (C7) Depth (Inches): Uwater Saliand Leaves (B9) FAC-Neutral Test (D5) Field Observations: Sulface Water Present? Yes No Depth (Inches): Uwater Saliand Leaves (B9) Fedor Present? Yes No Depth (Inches): Uwater Saliand Leaves (B9) Wetland Hydrology Present? Yes No Depth (Inches): Uwater Salian					, Clay Loa		
Histic Epipedon (A2)			le to all LRRs, u				-
Black Histic (A3)			Į			,	, ,
Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR C) Depleted Matrix (F2) Depleted Below Dark Surface (F6) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): Remarks: There are no hydric soil indicators present, however the location is assumed ACOE wetlands given that it is within the San Diego River. The pit was dug about 2 feet from perennial non-wetland waters. HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators (2 or more required) Water Marks (B1) (Norriverine) Sufface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Norriverine) Defined Deposits (B2) (Nonriverine) Drift Deposits (B1) (Nonriverine) Drift Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Drift Deposits (B3) (Nonriverine) Drift Deposits (B3) (Monriverine) Drift Deposits			l				, ,
Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks)			l I				
Tem Muck (A9) (LRR D)			C)				,
Depleted Below Dark Surface (A11)			[,
Sandy Mucky Mineral (S1)			e (A11)	Depleted Dark Surface (F7)			
Sandy Gleyed Matrix (S4) wetland hydrology must be present. Restrictive Layer (if present): Type: Depth (inches): Phydric Soil Present? Yes No		, ,	Ì				
Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No Remarks: There are no hydric soil indicators present, however the location is assumed ACOE wetlands given that it is within the San Diego River. The pit was dug about 2 feet from perennial non-wetland waters. HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators (2 or more required) Primary Indicators (any one indicator is sufficient) Surface Water (A1) Salt Crust (B11) Sediment Deposits (B2) (Riverine) High Water Table (A2) Saturation (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Thin Muck Surface (C7) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C6) Saturation Visible on Aerial Imagery (C9) Mater -Stained Leaves (B9) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No Depth (inches): Outland Present? Yes No Outland Pr			ĺ	Vernal Pools (F9)		•	
Type: Depth (inches): Remarks: There are no hydric soil indicators present, however the location is assumed ACOE wetlands given that it is within the San Diego River. The pit was dug about 2 feet from perennial non-wetland waters. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) Surface Water (A1) High Water Table (A2) Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Sediment Deposits (B3) (Riverine) Mater Marks (B1) (Nonriverine) Sediment Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Sediment Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Sediment Deposits (B3) (Riverine) Drift Deposits (B						wetland hydrol	ogy must be present.
Hydric Soil Present? Yes No No No No No No No No		Layer (if present):					
Remarks: There are no hydric soil indicators present, however the location is assumed ACOE wetlands given that it is within the San Diego River. The pit was dug about 2 feet from perennial non-wetland waters. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) Surface Water (A1) High Water Table (A2) Biotic Crust (B11) Aquatic Invertebrates (B13) Mater Marks (B1) (Nonriverine) Saturation (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10) Dry-Season Water Table (C2) Sediment Deposits (B2) (Nonriverine) Sodized Rhizospheres along Living Roots (C3) Thin Muck Surface (C7) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes No Depth (inches): Outland Hydrology Present? Yes No Depth	· · · —			_			
HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators (2 or more required)		·				-	9
Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) (Nonriverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Nonriverine) Sediment Deposits (B3) (Riverine) Drift Deposits (B3) (Nonriverine) Drift Deposits (B3) (Nonriverine) Drift Deposits (B3) (Nonriverine) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No Depth (inches): 0 Saturation Present? Yes No Depth (inches): 12 Wetland Hydrology Present? Yes No Depth (inches): 12							given that it is within the San
Wetland Hydrology Indicators: Secondary Indicators (2 or more required) Primary Indicators (any one indicator is sufficient)	Ι	Diego River. The pi	t was dug abo	ut 2 feet from perennial non-we	etland wa	aters.	
Wetland Hydrology Indicators: Secondary Indicators (2 or more required) Primary Indicators (any one indicator is sufficient)							
Wetland Hydrology Indicators: Secondary Indicators (2 or more required) Primary Indicators (any one indicator is sufficient)	HYDROLO	OGY					
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Saturation (A3)		(/		` ′			
Water Marks (B1) (Nonriverine)							, , ,
Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Ves No Depth (inches): Saturation Present? Yes No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		, ,	ino)				, ,
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(includes capillary fringe) Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			~				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			es 💿 No (Depth (inches): 12	Wet	and Hydrology Prese	ent? Yes (•) No (
Remarks:			gauge, monitor	ing well, aerial photos, previous ins	I		<u> </u>
Remarks:				•	,		
	Remarks:						
IS Army Corns of Engineers	70.1						

Project/Site: Pure Water Program	City/	County:San Dieg	o/San Diego	Sampling Date:0	9/28/2016
Applicant/Owner:City of San Diego			State:CA	Sampling Point:1	4b
Investigator(s): Danielle Mullen, Katie Dayton	n Sect	ion, Township, Ra	inge: 30, 15S, 1W	_	
Landform (hillslope, terrace, etc.):	Loca	al relief (concave,	convex, none):None	Slo	oe (%):()
Subregion (LRR):C - Mediterranean Californi	a Lat:32.83		Long:-117.02	 Datu	m:
Soil Map Unit Name: Riverwash			NWI classif	ication: Freshwater fo	rrested/shrub wetlar
Are climatic / hydrologic conditions on the site typ	ical for this time of year?	Yes No ((If no, explain in F		
Are Vegetation Soil or Hydrology	significantly distu		"Normal Circumstances"	present? Yes	No 🔘
Are Vegetation Soil or Hydrology	naturally problem		eeded, explain any answ		
SUMMARY OF FINDINGS - Attach si					atures, etc.
Hydrophytic Vegetation Present? Yes (No (•)				
Hydric Soil Present? Yes (No (Is the Sample	l Area		
Wetland Hydrology Present? Yes (Remarks:	No No	within a Wetla	nd? Yes 🔿	No ①	
VEGETATION					
VEGETATION	Absolute Don	ninant Indicator	Dominance Test wor	ksheet:	
Tree Stratum (Use scientific names.)	% Cover Spe	cies? Status	Number of Dominant		
1.			That Are OBL, FACW	, or FAC: 0	(A)
2		 	Total Number of Domi		(5)
3.			Species Across All Str	rata: 0	(B)
4	Total Cover: %	<u> </u>	Percent of Dominant S	·	(A/D)
Sapling/Shrub Stratum	Total Cover. 70		That Are OBL, FACW	, or FAC: 0	% (A/B)
1			Prevalence Index wo		
2			Total % Cover of:		
3.		<u>.</u>	OBL species	x 1 =	0
4.			FACW species FAC species	x 2 = x 3 =	0
5	otal Cover: %		FACU species	x 4 =	0
Herb Stratum	otal Cover: %		UPL species	x 5 =	0
1.			Column Totals:	(A)	0 (B)
2.		 -		. ,	0 (-)
3.		<u> </u>	Prevalence Inde		
4.			Hydrophytic Vegetat		
5			Dominance Test i Prevalence Index		
7.			Morphological Ad	aptations ¹ (Provide	
8.	Total Cover			ks or on a separate ophytic Vegetation ¹	,
Woody Vine Stratum	otal Cover: %				
12.			¹ Indicators of hydric s be present.	soil and wetland hy	drology must
	otal Cover: %		Hydrophytic Vegetation		
% Bare Ground in Herb Stratum%	% Cover of Biotic Crust	%		es O No 💿)
Remarks: There is no vegetation within the	e channel.				

SOIL Sampling Point: 14b

Depth (inches)	Matrix Color (moist)	%	Redo Color (moist)	%	Type ¹	Loc ²	Texture ³	Remarks
	oncentration, D=Depl					-	Root Channel, I	M=Matrix. n, Silt Loam, Silt, Loamy Sand, Sai
	ndicators: (Applicable				idy Loain, C	Diay Loain,		Problematic Hydric Soils:
Histoso	(A1)		Sandy Red	-				(A9) (LRR C)
	pipedon (A2)		Stripped M	` ,	([4)			k (A10) (LRR B)
	istic (A3) en Sulfide (A4)			cky Mineral yed Matrix (Vertic (F18) nt Material (TF2)
	d Layers (A5) (LRR C	;)	Depleted N	-	(1 2)			plain in Remarks)
	uck (A9) (LRR D)			k Surface (F	,			
	d Below Dark Surface	(A11)		ark Surface	` '			
1	ark Surface (A12) Mucky Mineral (S1)		Vernal Poo	oressions (F	8)		⁴ Indicators of h	ydrophytic vegetation and
	Gleyed Matrix (S4)		Verriari ee	715 (1 5)				drology must be present.
estrictive	Layer (if present):							
Type:								
,,								
Depth (in	<u> </u>					ı	Hydric Soil Pre	esent? Yes No No
Depth (in	ches):o soil data taken be	ecause the	channel contain	s water.			Hydric Soil Pre	esent? Yes No No
Depth (in	<u> </u>	ecause the	channel contain	s water.		ı	Hydric Soil Pre	esent? Yes No No
Depth (in	<u> </u>	ecause the	channel contain	s water.		1	Hydric Soil Pre	esent? Yes No (•
Depth (in Remarks: N	o soil data taken be	ecause the	channel contain	s water.				
Depth (in Remarks: N	o soil data taken be			s water.		I	Secondar	y Indicators (2 or more required)
Depth (in Remarks: N YDROLO Vetland Hy Primary Indi	o soil data taken be GY drology Indicators: cators (any one indicators)		ient)			I	Secondar	y Indicators (2 or more required) or Marks (B1) (Riverine)
Depth (in Remarks: N YDROLO Vetland Hy Primary Indi Surface	o soil data taken be OGY drology Indicators: cators (any one indicators) Water (A1)		ient)	t (B11)			Secondar Wate	y Indicators (2 or more required) or Marks (B1) (Riverine) ment Deposits (B2) (Riverine)
Depth (in Remarks: No YDROLO Vetland Hy Primary Indi High W: High W: You have the property of the primary Indi High W: You have the property of the property o	o soil data taken be OGY drology Indicators: cators (any one indicators (A1) ater Table (A2)		ient) Salt Crus Biotic Cru	t (B11)	o (R12)		Secondar Wate Sedir Drift	y Indicators (2 or more required) or Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine)
Depth (in Remarks: No YDROLO Wetland Hy Primary Indi High Wall Saturati	GGY drology Indicators: cators (any one indicators (A1) ater Table (A2) on (A3)	ator is suffic	ient) Salt Crus Biotic Cru Aquatic Ir	t (B11) ist (B12) overtebrates	` ,		Secondar Wate Sedir Drift	y Indicators (2 or more required) or Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) lage Patterns (B10)
Primary Indi Surface High Water M	drology Indicators: cators (any one indicators (A1) eter Table (A2) on (A3) Marks (B1) (Nonriveri	ator is suffic	sient) Salt Crus Biotic Cru Aquatic Ir	t (B11) ist (B12) overtebrates i Sulfide Od	or (C1)		Secondar Wate Sedir Drift Drain Dry-S	y Indicators (2 or more required) or Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine)
YDROLO YDROLO Wetland Hy Primary Indi Surface High Water M Sedime	GGY drology Indicators: cators (any one indicators (A1) ater Table (A2) on (A3)	ator is suffic ne) ariverine)	sient) Salt Crus Biotic Cru Aquatic Ir Hydroger Oxidized	t (B11) ist (B12) overtebrates	or (C1) es along Li		Secondar Wate Sedir Drift Drain Dry-S (C3) Thin	y Indicators (2 or more required) or Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) tage Patterns (B10) Season Water Table (C2)
Depth (in Remarks: No Primary Indi Surface High Water No Sedime Drift De	drology Indicators: cators (any one indicators (A1) ater Table (A2) on (A3) Marks (B1) (Nonriverint Deposits (B2) (Nor	ator is suffic ne) ariverine)	Salt Crus Salt Crus Biotic Cru Aquatic Ir Hydroger Oxidized Presence	t (B11) ist (B12) nvertebrates n Sulfide Od Rhizosphere	or (C1) es along Li d Iron (C4)	ving Roots	Secondar Wate Sedir Drift Drain Dry-S (C3) Thin Satu	y Indicators (2 or more required) or Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) Muck Surface (C7) fish Burrows (C8) ration Visible on Aerial Imagery (C2)
Primary Indi Saturati Water N Sedime Drift De Surface	drology Indicators: cators (any one indicators (any one indicators (A1) ater Table (A2) on (A3) Marks (B1) (Nonriverient Deposits (B2) (Norrivers) posits (B3) (Nonrivers) Soil Cracks (B6) ion Visible on Aerial In	ne) ine)	ient) Salt Crus Biotic Cru Aquatic Ir Hydroger Oxidized Presence Recent Ir	t (B11) Ist (B12) Invertebrates I Sulfide Od Rhizospher I of Reduced	or (C1) es along Li d Iron (C4) on in Plowe	ving Roots	Secondar Wate Sedir Drift Drain Dry-S (C3) Thin Crayl Satul Shall	y Indicators (2 or more required) or Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) hage Patterns (B10) Season Water Table (C2) Muck Surface (C7) fish Burrows (C8) ration Visible on Aerial Imagery (Calory ow Aquitard (D3)
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Depth (in Remarks: No Primary Indi Surface High Water No Sedime Drift De Surface Unundat Water-Seurface Water Table Saturation Fincludes ca	drology Indicators: cators (any one indicators (any one indicators) water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrivering (B2) (Nonrivering (B3) (Nonri	ne) uriverine) ine) magery (B7	Salt Crus Biotic Cru Aquatic Ir Hydroger Oxidized Presence Recent Ir Other (Ex	t (B11) Ist (B12) Invertebrates In Sulfide Od Rhizospher In of Reduced In Reduction Inches): Inches): Inches): Inches):	or (C1) es along Li d Iron (C4) on in Plower marks)	ving Roots	Secondar Wate Sedir Drift Drain Crayl Satur Shall FAC-	y Indicators (2 or more required) or Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) Muck Surface (C7) fish Burrows (C8) ration Visible on Aerial Imagery (Ca) ow Aquitard (D3) Neutral Test (D5)
Depth (in Remarks: No Primary Indi Surface High Water No Sedime Drift De Surface Unundat Water-Seurface Water Table Saturation Fincludes ca	drology Indicators: cators (any one indicators (any one indicators) Water (A1) eter Table (A2) on (A3) Marks (B1) (Nonriveriet (A2) on (A3) Moriver (A3) (Nonriveriet (A3) (Nonriveriet (A3)) on Visible on Aerial Instained Leaves (B9) vations: ter Present? Present? Year	ne) uriverine) ine) magery (B7	Salt Crus Biotic Cru Aquatic Ir Hydroger Oxidized Presence Recent Ir Other (Ex	t (B11) Ist (B12) Invertebrates In Sulfide Od Rhizospher In of Reduced In Reduction Inches): Inches): Inches): Inches):	or (C1) es along Li d Iron (C4) on in Plower marks)	ving Roots	Secondar Wate Sedir Drift Drain Crayl Satur Shall FAC-	y Indicators (2 or more required) or Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) Muck Surface (C7) fish Burrows (C8) ration Visible on Aerial Imagery (Ca) ow Aquitard (D3) Neutral Test (D5)
Primary Indi Surface High Water N Sedime Drift De Surface Inundat Water-S Field Obser Surface Water Table Saturation F includes ca	drology Indicators: cators (any one indicators (any one indicators) water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrivering (B2) (Nonrivering (B3) (Nonri	ne) uriverine) ine) magery (B7	Salt Crus Biotic Cru Aquatic Ir Hydroger Oxidized Presence Recent Ir Other (Ex	t (B11) Ist (B12) Invertebrates In Sulfide Od Rhizospher In of Reduced In Reduction Inches): Inches): Inches): Inches):	or (C1) es along Li d Iron (C4) on in Plower marks)	ving Roots	Secondar Wate Sedir Drift Drain Crayl Satur Shall FAC-	y Indicators (2 or more required) or Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) Muck Surface (C7) fish Burrows (C8) ration Visible on Aerial Imagery (Ca) ow Aquitard (D3) Neutral Test (D5)
Depth (in Remarks: No Primary Indi Surface High Water No Sedime Drift De Surface Unundat Water-Seurface Water Table Saturation Fincludes ca	drology Indicators: cators (any one indicators (any one indicators) water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrivering (B2) (Nonrivering (B3) (Nonri	ne) uriverine) ine) magery (B7	Salt Crus Biotic Cru Aquatic Ir Hydroger Oxidized Presence Recent Ir Other (Ex	t (B11) Ist (B12) Invertebrates In Sulfide Od Rhizospher In of Reduced In Reduction Inches): Inches): Inches): Inches):	or (C1) es along Li d Iron (C4) on in Plower marks)	ving Roots	Secondar Wate Sedir Drift Drain Crayl Satur Shall FAC-	y Indicators (2 or more required) or Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) Muck Surface (C7) fish Burrows (C8) ration Visible on Aerial Imagery (Ca) ow Aquitard (D3) Neutral Test (D5)
Primary Indi Surface High Water N Sedime Drift De Surface Inundat Water-S Field Obser Surface Water Table Saturation F includes ca	drology Indicators: cators (any one indicators) water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrivering Deposits (B2) (Noriverse) posits (B3) (Nonriverse) con Visible on Aerial Instanced Leaves (B9) wations: are Present? Present? Present? Year	ne) uriverine) ine) magery (B7	Salt Crus Biotic Cru Aquatic Ir Hydroger Oxidized Presence Recent Ir Other (Ex	t (B11) Ist (B12) Invertebrates In Sulfide Od Rhizospher In of Reduced In Reduction Inches): Inches): Inches): Inches):	or (C1) es along Li d Iron (C4) on in Plower marks)	ving Roots	Secondar Wate Sedir Drift Drain Crayl Satur Shall FAC-	y Indicators (2 or more required) or Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) Muck Surface (C7) fish Burrows (C8) ration Visible on Aerial Imagery (Ca) ow Aquitard (D3) Neutral Test (D5)
Primary Indi Surface High Water N Sedime Drift De Surface Inundat Water-S Field Obser Surface Water Table Saturation F includes ca	drology Indicators: cators (any one indicators) water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrivering Deposits (B2) (Noriverse) posits (B3) (Nonriverse) con Visible on Aerial Instanced Leaves (B9) wations: are Present? Present? Present? Year	ne) uriverine) ine) magery (B7	Salt Crus Biotic Cru Aquatic Ir Hydroger Oxidized Presence Recent Ir Other (Ex	t (B11) Ist (B12) Invertebrates In Sulfide Od Rhizospher In of Reduced In Reduction Inches): Inches): Inches): Inches):	or (C1) es along Li d Iron (C4) on in Plower marks)	ving Roots	Secondar Wate Sedir Drift Drain Crayl Satur Shall FAC-	y Indicators (2 or more required) or Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) Muck Surface (C7) fish Burrows (C8) ration Visible on Aerial Imagery (Ca) ow Aquitard (D3) Neutral Test (D5)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circu. Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain SUMMARY OF FINDINGS - Attach site map showing sampling point locations, the Hydrophytic Vegetation Present? Yes No Submit Indicator Hydrology Present? Yes No Submit Indicator Number of That Are Owner Species? Status VEGETATION Tree Stratum (Use scientific names.) Absolute Dominant Indicator Wetland? Absolute Dominant Indicator Number of That Are Owner Species? Status Number of That Are Owner Species? That Indicator Number of That Are Owner Species? Active Number of That Are Owner Species Number of	i, 1W i:None 00 IWI classification: Frese explain in Remarks.) mstances" present? any answers in Rem	Yes arks.) tant featur	ed/shrub we
andform (hillslope, terrace, etc.): Local relief (concave, convex, none bubregion (LRR).C - Mediterranean California Lat:32.84 Long:-117. Local relief (concave, convex, none bubregion (LRR).C - Mediterranean California Lat:32.84 Long:-117. Local relief (concave, convex, none bubregion (LRR).C - Mediterranean California Lat:32.84 Long:-117. Local relief (concave, convex, none bubregion (LRR).C - Mediterranean California Lat:32.84 Long:-117. Local relief (concave, convex, none bubregion (LRR).C - Mediterranean California Lat:32.84 Long:-117. Local relief (concave, convex, none bubregion (LRR).C - Mediterranean California Lat:32.84 Long:-117. Local relief (concave, convex, none bubregion (LRR).C - Mediterranean California Lat:32.84 Long:-117. Local relief (concave, convex, none bubregion (LRR).C - Mediterranean California Lat:32.84 Long:-117. Local relief (concave, convex, none autoria). I california Lat:32.84 Long:-117. No (If no, (If no, (If no, If no	Present worksheet: Dominant Species BL, FACW, or FAC: Does not be species and services are species as a service with the services are species as a servic	Datum:shwater forrester Yes	No Cres, etc
bregion (LRR).C - Mediterranean California Lat:32.84 Long:-117. Map Unit Name: Visalia gravelly sandy loam Image: V	WI classification: Free explain in Remarks.) mstances" present? n any answers in Rem ransects, import Yes No Perfect worksheet: Dominant Species BL, FACW, or FAC: Deer of Dominant ross All Strata:	Datum:shwater forrester Yes	No Cres, etc
Map Unit Name: Visalia gravelly sandy loam e climatic / hydrologic conditions on the site typical for this time of year? Yes	explain in Remarks.) mstances" present? n any answers in Rem ransects, import Yes No No Test worksheet: Dominant Species BL, FACW, or FAC: Deer of Dominant ross All Strata:	Yes Yes narks.) tant featur	No Cres, etc
e climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, e Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circular Vegetation Soil or Hydrology naturally problematic? (If needed, explain under the development of the vegetation of Hydrology naturally problematic? (If needed, explain under the vegetation Present? Attach site map showing sampling point locations, the dydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Remarks: Vegetation Present?	explain in Remarks.) mstances" present? n any answers in Rem ransects, import Yes No Perfect worksheet: Dominant Species BL, FACW, or FAC: Deer of Dominant ross All Strata:	Yes narks.) tant featur	No Cres, etc
e Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circule Vegetation Soil or Hydrology naturally problematic? (If needed, explain UMMARY OF FINDINGS - Attach site map showing sampling point locations, to the development of	ransects, import Yes No No Test worksheet: Dominant Species BL, FACW, or FAC: Deer of Dominant ross All Strata:	tant featur	res, etc
Percent of Total Cover: % Prevalence Stratum Total Cover: %	Yes No Per Test worksheet: Dominant Species BL, FACW, or FAC: Deer of Dominant ross All Strata:	tant featur	res, etc
UMMARY OF FINDINGS - Attach site map showing sampling point locations, theydrophytic Vegetation Present? Yes No Flydric Soil Present? Yes No Soil Present Status Within a Wetland? Wetland? Wetland? Wetland? Wetland? Wetland? Wetland? Wetland? Wetland? Wetland Soil Present Status Soil Present Soil Present Status Soil	Yes No No Test worksheet: Dominant Species BL, FACW, or FAC: Deer of Dominant ross All Strata:	O	(A)
Hydrophytic Vegetation Present? Hydric Soil Present? Vetand Hydrology Present? Yes No No Within a Wetland? Remarks: Status Dominant Indicator Species? Status	Yes No No Test worksheet: Dominant Species BL, FACW, or FAC: Deer of Dominant Tross All Strata:	0	(A)
Absolute % Cover % Cover % Species? Atatus % Cover % C	e Test worksheet: Dominant Species BL, FACW, or FAC: per of Dominant ross All Strata:	0	
Remarks: Column Total Cover: % Secolum Secolum	e Test worksheet: Dominant Species BL, FACW, or FAC: per of Dominant ross All Strata:	0	
Remarks: Remarks: Remarks: Reperce Stratum (Use scientific names.) Reperce	e Test worksheet: Dominant Species BL, FACW, or FAC: per of Dominant ross All Strata:	0	
EGETATION Tree Stratum (Use scientific names.) Total Cover: Total Cov	Dominant Species BL, FACW, or FAC: per of Dominant ross All Strata:		
Tree Stratum (Use scientific names.) % Cover Species? Status Number of That Are O	Dominant Species BL, FACW, or FAC: per of Dominant ross All Strata:		
Total Cover: % Sapling/Shrub Stratum Total Cover: % Prevalence Total 9 OBL specie FACW specie FACU specie FACU specie Column To Preval Hydrophyte	ross All Strata:	0	(B)
Total Cover: % Percent of That Are O Prevalence Total 9 OBL specie FACW specie FAC specie FACU specie FACU specie Column To Prevalence FACU specie	Dominant Species		
Total 9 B. OBL specie FACW specie FAC specie FAC specie FACU specie UPL specie Column To Preva	BL, FACW, or FAC:	0 %	(A/B)
OBL species FACW species FAC species FACU species FACU species Column To Col	Index worksheet:		
FACW species. Total Cover: % FAC species FACU species UPL species Column Total Preva	6 Cover of:	Multiply by:	
Total Cover: % FAC specie FACU specie UPL specie Column To Preva			0
Total Cover: % Herb Stratum Column To Preva Hydrophyte			0
Herb Stratum UPL specie Column To Preva Hydrophyt			0
Column To			0
Preva			$\frac{0}{0}$ (B)
Hydrophyt		,	(D)
	llence Index = B/A =	4.0.00	
Domin	ic Vegetation Indicate ance Test is >50%	tors:	
	ence Test is >50% ence Index is ≤3.0 ¹		
Morph	ological Adaptations ¹ (a in Remarks or on a s		
	matic Hydrophytic Veç	•	
·	of hydric soil and we	tland hydrolo	ogy must
Total Cover: % Hydrophyt Vegetation	<u>. </u>		
% Bare Ground in Herb Stratum % Cover of Biotic Crust % Present?	ic	No 💿	
Remarks: No vegetation present.	ic		

US Army Corps of Engineers

SOIL Sampling Point: 15a

	the depth nee	aea to aocur	nent the ind	icator or c	confirm	n the absence o	i ilidicators.)
Depth Matrix			k Features			_ 2	
(inches) Color (moist)	% Col	or (moist)		Type ¹ L	_OC ²	Texture ³	Remarks
0-2 10 YR 3/2	100					Sandy clay	
2-8 10 YR 3/1	90 5 YR	2.5/1	5			Clay	Dark redox feature
2-8 10 YR 3/1	90 2.5 Y	R 1/8	5			Clay	Red redox feature
		IX 4/ 0				Ciay	- Red redox reature
			· —— —				
¹ Type: C=Concentration, D=Deple	tion RM-Redu	ad Matrix	² Location: E	DI –Pore Lir	ning P	C=Root Channel	M-Matrix
1					-		ım, Silt Loam, Silt, Loamy Sand, Sand.
Hydric Soil Indicators: (Applicable				,	.a, _oa		Problematic Hydric Soils:
Histosol (A1)		Sandy Redo	-				ck (A9) (LRR C)
Histic Epipedon (A2)	-	Stripped Ma	` '				ck (A10) (LRR B)
Black Histic (A3)		Loamy Muc	ky Mineral (F	- 1)		Reduced	Vertic (F18)
Hydrogen Sulfide (A4)		Loamy Gley	ed Matrix (F	2)		Red Par	ent Material (TF2)
Stratified Layers (A5) (LRR C)	×					Other (E	xplain in Remarks)
1 cm Muck (A9) (LRR D)			Surface (F6	,			
Depleted Below Dark Surface	(A11)		ark Surface (,			
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	L	Redox Depi	ressions (F8))		⁴ Indicators of	hydrophytic vegetation and
Sandy Gleyed Matrix (S4)		J veillai i ooi	3 (1 3)				ydrology must be present.
Restrictive Layer (if present):							yareregy maer ze precem
Type:							
Depth (inches):						Hydric Soil P	resent? Yes No
Remarks: Dark and red redox fe	noturas ara pro	cont in coil o	ot 2 & incha	e within t	ho olo	_	resent. res (g) No ()
Nomente. Dark and red redox re	atures are pre	SCIIL III SOII 6	it 2-0 mene	5 WILIIII L	ne cia	y merusions.	
HYDROLOGY							
Wetland Hydrology Indicators:						Second	ary Indicators (2 or more required)
Primary Indicators (any one indicat	or is sufficient)					·	ter Marks (B1) (Riverine)
Surface Water (A1)	<u></u>	Salt Crust	(B11)				diment Deposits (B2) (Riverine)
High Water Table (A2)	L	Biotic Crus					t Deposits (B3) (Riverine)
Saturation (A3)	L		vertebrates (B13)			inage Patterns (B10)
Water Marks (B1) (Nonriverin	le)		Sulfide Odo	,			-Season Water Table (C2)
Sediment Deposits (B2) (Nonr	.^		Rhizospheres		na Roo		n Muck Surface (C7)
Drift Deposits (B3) (Nonriveria			of Reduced	•	9	` ' 🗀	yfish Burrows (C8)
Surface Soil Cracks (B6)			n Reduction	` ,	Soils (0		uration Visible on Aerial Imagery (C9)
Inundation Visible on Aerial Im	nagery (B7)		olain in Rema			′ 🗀	allow Aquitard (D3)
				-,			C-Neutral Test (D5)
Water-Stained Leaves (B9)							. ,
Water-Stained Leaves (B9) Field Observations:							
Field Observations:	s O No O	Depth (in	ches):				
Field Observations: Surface Water Present? Yes	s No O		· 				
Field Observations: Surface Water Present? Water Table Present? Yes	s No	Depth (in	ches):		-		
Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes		Depth (in	ches):		Wetla	and Hydrology l	Present? Yes . No (
Field Observations: Surface Water Present? Water Table Present? Yes	No (a)	Depth (in	ches):	ous inspec	1		Present? Yes No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	No (a)	Depth (in	ches):	ous inspec	1		Present? Yes No
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	No (a)	Depth (in	ches):	ous inspec	1		Present? Yes No
Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream g	No (a)	Depth (in	ches):	ous inspec	1		Present? Yes No
Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream g	No (a)	Depth (in	ches):	ous inspec	1		Present? Yes No
Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream g	No (a)	Depth (in	ches):	ous inspec	1		Present? Yes No
Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream g	No (a)	Depth (in	ches):	ous inspec	1		Present? Yes No

Project/Site: Pure Water Program		City/Count	y:Santee/S	an Diego	Sa	mpling Date:	:09/28/20	16
Applicant/Owner: City of San Diego				State:CA	Sa	mpling Point	:15b	
nvestigator(s):Danielle Mullen, Katie Dayton		Section, T	ownship, Ra	ange: 29, 15S, 1W				
andform (hillslope, terrace, etc.):		Local relie	ef (concave,	convex, none): None	2	S	lope (%):()	
Subregion (LRR):C - Mediterranean California	Lat:32.8	34		Long:-117.00		 Dat	tum:	
Soil Map Unit Name: Visalia gravelly sandy loam				NWI cla	ssificatio	n: Freshwater	forrested/shi	rub wetla
Are climatic / hydrologic conditions on the site typical for this	time of ve	ear? Yes	No (
		disturbed?		"Normal Circumstan		,	No	\circ
		oblematic?		eeded, explain any a	•	-	, ,,,	
							4	-1-
SUMMARY OF FINDINGS - Attach site map s	nowing	sampiin	ig point i	ocations, transe	ects, im	iportant i	eatures,	etc.
Hydrophytic Vegetation Present? Yes No								
		ls t	he Sample	d Area				
		wit	hin a Wetla	nd? Yes	•	No 🔘		
Remarks:								
VEGETATION								
	Absolute		Indicator	Dominance Test	workshe	et:		
	% Cover	Species?		Number of Domin			•	(A)
1. Salix gooddingii 2.	80	Yes	FACW	That Are OBL, FA	CVV, or F.	AC:	2	(A)
3.				Total Number of D			2	(D)
4.				Species Across A	i Silala.		2	(B)
Total Cover:	80 %			 Percent of Domina That Are OBL, FA 			00.00	(
Sapling/Shrub Stratum	. 00 /0			That Ale OBL, FA	CVV, OI F.	AC. 1(00.0 %	(A/B)
1.Arundo donax	10	No	FACW	Prevalence Index				
2				Total % Cove	r of:		ply by:	-
3				OBL species	0.5	x 1 =	0	
4				FACW species FAC species	95	x 2 =	190	
5. Total Cover:	10.0/			FAC species	62	x 3 = x 4 =	186	
Herb Stratum	10 %			UPL species		x 5 =	0	
1.Cyperus eragrostis	5	No	FACW	Column Totals:	157	(A)	376	(B)
2.Rumex crispus		No	FAC	_ Column Totals.	157	(^)	370	(D)
3.				Prevalence			2.39	
4.				Hydrophytic Veg				
5.				X Dominance T				
6.				× Prevalence Ir				
7				Morphologica data in Re		ions' (Provid on a separa		ng
8				Problematic H				1)
Total Cover: Woody Vine Stratum	7 %					Ü	` .	,
1.Vitis girdiana	60	Yes	FAC	¹ Indicators of hyd	ric soil ar	nd wetland h	nydrology r	must
2.				be present.				
	60 %			Hydrophytic				
Total Cover:				Vegetation			_	
% Bare Ground in Herb Stratum % % Cover	of Riotic (rust	%	Present?	Yes (No (

SOIL Sampling Point: 15b

Profile Des	cription: (Describe	to the depth	needed to docu	ment the indicator	or confirm	n the absence of ind	icators.)
Depth	Matrix			x Features		- 3	
(inches)	Color (moist)		Color (moist)	% Type ¹	Loc ²	Texture ³	Remarks
0-1	10 YR 2/2	100				Loam	
2-8	10 YR 3/2	95 7.5	5 YR 5/8	5		Sand	
8-16	10 YR 4/2	100				Sand	
-0-10	10 11 4/2					Sand	
		·					
				- <u> </u>			
	-	· — —		·			
1Tymps, C. C	Concentration D. Don	letion DM D	aduand Matrix	21 - antinu DI Dan		O. Doot Channel M	NA - Audio
1	Concentration, D=Dep				-	C=Root Channel, M=	Matrix. Silt Loam, Silt, Loamy Sand, Sand.
	Indicators: (Applicab				i, Clay Loa		blematic Hydric Soils:
Histoso		ie io ali enns,	Sandy Redo	•		1 cm Muck (A	-
	pipedon (A2)		Stripped Ma	` '		2 cm Muck (A	/ \ /
	listic (A3)			ky Mineral (F1)		Reduced Ver	, \ ,
1 📖	en Sulfide (A4)		Loamy Gle	yed Matrix (F2)			Material (TF2)
Stratifie	ed Layers (A5) (LRR (S)	Depleted M	atrix (F3)		Other (Explai	n in Remarks)
1 📖	uck (A9) (LRR D)		Redox Dark	Surface (F6)		_	
I L .	ed Below Dark Surfac	e (A11)		ark Surface (F7)			
	Park Surface (A12)			ressions (F8)		4	
1 📖	Mucky Mineral (S1)		Vernal Poo	Is (F9)		•	rophytic vegetation and
	Gleyed Matrix (S4)					wetiand nydro	logy must be present.
	Layer (if present):						
Type:							
Depth (ir	nches):					Hydric Soil Prese	nt? Yes No
Remarks:							
HYDROLO)CV						
						Casandanil	diantana (O an anana na manina di
1	/drology Indicators:						ndicators (2 or more required)
	icators (any one indic	ator is sufficie					flarks (B1) (Riverine)
	e Water (A1)		Salt Crust				nt Deposits (B2) (Riverine)
1 🗀 -	ater Table (A2)		Biotic Cru				posits (B3) (Riverine)
	ion (A3)		ш.	vertebrates (B13)			e Patterns (B10)
	Marks (B1) (Nonriver	,		Sulfide Odor (C1)			son Water Table (C2)
•••	ent Deposits (B2) (No	•		Rhizospheres along	_	· · · —	ck Surface (C7)
•••	eposits (B3) (Nonrive	rine)		of Reduced Iron (C	,		Burrows (C8)
	Soil Cracks (B6)	(=-)		n Reduction in Plo	wed Soils (· ' 🗀	on Visible on Aerial Imagery (C9)
	tion Visible on Aerial I	magery (B7)	Other (Ex	olain in Remarks)			Aquitard (D3)
	Stained Leaves (B9)					FAC-Ne	eutral Test (D5)
Field Obse			_				
Surface Wa	ter Present? Y	es O No	Depth (in	ches):			
Water Table	e Present?	es 🔘 No	Depth (in	ches):			
Saturation F		es No	Depth (in	ches):	Moti	land Uvdralagy Drag	ant2 Vac
	pillary fringe) ecorded Data (stream	gauga monit	oring well periol	photos provious in		land Hydrology Pres	ent? Yes (•) No (
Describe N	ecorded Data (Stream	gauge, monit	oning well, aerial	priotos, previous in	spections),	ii avaiiabie.	
Remarks:							
US Army Corr	os of Engineers						

Project/Site: Pure Water Program		City/County	Santee/Sa	n Diego	Sam	pling Date:(09/28/20	16
Applicant/Owner: City of San Diego				State:CA	Sam	oling Point:	16a	
Investigator(s): Katie Dayton, Danielle Mullen		Section, To	ownship, Rar	nge: 18, 15S, 1E		-		
Landform (hillslope, terrace, etc.): flat/riverbed		Local relie	f (concave, c	convex, none): None	.	Slo	pe (%):()	
Subregion (LRR):C - Mediterranean California	Lat:32.8	37		Long:-116.92		 Datu	ım:	
Soil Map Unit Name: Riverwash				NWI cla	ssification:	Riverine		
Are climatic / hydrologic conditions on the site typical for this	s time of ye	ear? Yes	No ((If no, explair	in Remarl	(s.)		
Are Vegetation Soil or Hydrology s	ignificantly	disturbed?	Are "	Normal Circumstand	ces" preser	t? Yes 🕡	No	0
Are Vegetation Soil or Hydrology n	aturally pro	oblematic?	(If ne	eded, explain any a	nswers in F	Remarks.)		
SUMMARY OF FINDINGS - Attach site map s	showing	samplin	g point lo	cations, transe	cts, imp	ortant fe	atures,	etc.
Hydrophytic Vegetation Present? Yes (N	0 (
	0	Is t	he Sampled	Area				
Wetland Hydrology Present? Yes N	0	witl	nin a Wetlan	d? Yes	I	No 🔘		
Remarks:								
VEGETATION								
Tree Stratum (Use scientific names.)	Absolute	Dominant		Dominance Test	worksheet	:		
1.Salix gooddingii	% Cover 40	Species?	Status FACW	Number of Domina				<i>(</i> Λ)
2.			TACW	That Are OBL, FA	CVV, OI FAC	J .		(A)
3.				Total Number of D Species Across Al			1	(B)
4.	-			Opecies Acioss Ai	i Strata.			(D)
Total Cove	r: 40 %			Percent of Domina That Are OBL, FA		_	0.0 %	(A/B)
Sapling/Shrub Stratum							0.0 %	(,,,,,
1. Baccharis salicifolia	75	Yes	FAC	Prevalence Index				
2. Cyperus eragrostis	2	No	FACW	Total % Cove	r of:	Multip		-
3. Ricinus communis	3	No	FACU	OBL species	40	x 1 =	0	
4.				FACW species	42	x 2 =	84	
5. Total Cava				FAC species FACU species	75	x 3 = x 4 =	225	
Total Cover Herb Stratum	: 80 %			UPL species	3	x 5 =	12	
1.				Column Totals:	120	(A)	321	(B)
2.				Column Totals.	120	(A)	321	(D)
3.				Prevalence I			2.67	
4.				Hydrophytic Veg	etation Ind	icators:		
5.				★ Dominance Tell T				
6.				× Prevalence In				
7				Morphological		ns' (Provide n a separate		ng
8				Problematic H			,	1)
Total Cover Woody Vine Stratum	%				, ,	J	` '	,
1.				¹ Indicators of hydi	ric soil and	wetland hy	/drology i	must
2.				be present.				
Total Cover	: %			Hydrophytic				
% Bare Ground in Herb Stratum % % Cover	of Biotic C	:rust	0%	Vegetation Present?	Yes (•)	No (
Remarks:	J. DIOIIC C		<u>%</u>	i resent:	163	140 (J	
Nomalks.								

SOIL Sampling Point: 16a

Depth (inches)	Matrix Color (moist)	%	Redox Features	C ² Texture ³	Domorko
	Color (moist)		Color (moist) % Type ¹ Loc		Remarks
0-4	7.5 YR 2.5/2			Sandy clay loam	
	_				
	-				
	_				
Type: C=0	Concentration, D=Dep	letion, RM=R	educed Matrix. ² Location: PL =Pore Linin	ng, RC=Root Channel, M=	Matrix
			oam, Sandy Clay Loam, Sandy Loam, Clay		
			, unless otherwise noted.)		blematic Hydric Soils:
Histoso			Sandy Redox (S5)	1 cm Muck (A	_
Histic E	Epipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A	110) (LRR B)
Black I	Histic (A3)		Loamy Mucky Mineral (F1)	Reduced Ver	tic (F18)
`	gen Sulfide (A4)		Loamy Gleyed Matrix (F2)	Red Parent N	, ,
	ed Layers (A5) (LRR (C)	Depleted Matrix (F3)	Other (Explai	n in Remarks)
	fluck (A9) (LRR D)	(8.4.4)	Redox Dark Surface (F6)		
	ed Below Dark Surfac	e (A11)	Depleted Dark Surface (F7)		
1	Dark Surface (A12) Mucky Mineral (S1)		Redox Depressions (F8) Vernal Pools (F9)	⁴ Indicators of hyd	rophytic vegetation and
	Gleyed Matrix (S4)		Verriai Foois (F9)	•	ogy must be present.
	Layer (if present):				-9,
Type:Ro					
1) 00.1(JCKS				
Depth (i	nches):4			Hydric Soil Prese	nt? Yes No 🕟
. `	nches):4		<u> </u>	Hydric Soil Prese	nt? Yes No
Depth (i Remarks:	nches):4			Hydric Soil Prese	nt? Yes No No
	nches): <u>4</u>			Hydric Soil Prese	nt? Yes No 💿
. `	nches):4			Hydric Soil Prese	nt? Yes No
emarks:	, <u>·</u>			Hydric Soil Prese	nt? Yes No No
emarks:	, <u>·</u>				nt? Yes No No ndicators (2 or more required)
emarks:	DGY		ent)	Secondary I	
POROLO Vetland H	OGY ydrology Indicators:			Secondary Ii	ndicators (2 or more required) larks (B1) (Riverine)
YDROL(Vetland H Irimary Inc	OGY ydrology Indicators: dicators (any one indicators)		Salt Crust (B11)	Secondary II Water M	ndicators (2 or more required) larks (B1) (Riverine) nt Deposits (B2) (Riverine)
YDROLO Vetland H rimary Inc Surface High W	OGY ydrology Indicators: licators (any one indicate Water (A1) /ater Table (A2)			Secondary Ii Water M Sedimer Drift De	ndicators (2 or more required) larks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine)
YDROLO Vetland H Vrimary Inc Surfac High W	DGY ydrology Indicators: dicators (any one indicate Water (A1) /ater Table (A2) tion (A3)	ator is sufficie	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	Secondary II Water N Sedimel Drift Del	ndicators (2 or more required) larks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10)
YDROLO Vetland H Vrimary Inc Surface High W Satura Water	ydrology Indicators: dicators (any one indicators (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriver	cator is sufficie	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Secondary II Water M Sedimer Drift Der Drainag Dry-Sea	ndicators (2 or more required) larks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2)
YDROL(Vetland H Vrimary Inc. Surfac. High W Satura Water Sedimo	ydrology Indicators: dicators (any one indicater (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (No	ine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living	Secondary II Water M Sedimer Drift Der Drainag Dry-Sea	ndicators (2 or more required) larks (B1) (Riverine) nt Deposits (B2) (Riverine) cosits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7)
YDROLO Vetland H Primary Inc Surface High W Satura Water Sedimo	ydrology Indicators: dicators (any one indice e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (No eposits (B3) (Nonrive	ine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)	Secondary II Water M Sedimer Drift Der Drainag Dry-Sea Roots (C3) Thin Mu Crayfish	ndicators (2 or more required) larks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8)
YDROLO Vetland H Inimary Inc Surface High W Satura Water Sedime Drift Do	ydrology Indicators: dicators (any one indicate Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverent Deposits (B2) (Noeposits (B3) (Nonriverence Soil Cracks (B6)	ine) nriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc	Secondary II Water M Sedimer Drift Der Drainag Dry-Sea Roots (C3) Thin Mu Crayfish Dils (C6) Saturation	ndicators (2 or more required) larks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C
YDROLO Vetland H Inimary Inc Surface High W Satura Water Sedime Drift Do Surface Inunda	ydrology Indicators: dicators (any one indicate Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverent Deposits (B2) (Noeposits (B3) (Nonriverent Capacita (B6)) e Soil Cracks (B6) tion Visible on Aerial	ine) nriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)	Secondary II Water M Sedimer Drift Der Drainag Dry-Sea Roots (C3) Thin Mu Crayfish Dils (C6) Saturati	ndicators (2 or more required) larks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C Aquitard (D3)
YDROLO Vetland H Vrimary Inc Surface High W Satura Water Sedime Drift De Surface Ununda	ydrology Indicators: dicators (any one indicater (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (Nonriver es Soil Cracks (B6) tion Visible on Aerial (Stained Leaves (B9)	ine) nriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc	Secondary II Water M Sedimer Drift Der Drainag Dry-Sea Roots (C3) Thin Mu Crayfish Dils (C6) Saturati	ndicators (2 or more required) larks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C
Vetland H Vetlan	ydrology Indicators: dicators (any one indicater (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (Nonriver es Soil Cracks (B6) tion Visible on Aerial (Stained Leaves (B9)	ine) nriverine) rine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks)	Secondary II Water M Sedimer Drift Der Drainag Dry-Sea Roots (C3) Thin Mu Crayfish Dils (C6) Saturati	ndicators (2 or more required) larks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C Aquitard (D3)
Vetland H Vetland H Vetland H Vetland Water Sedimore Surface Inunda Water- ield Obse	pdrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver) ent Deposits (B2) (Nonriver) ent Deposits (B3) (Nonriver) ent Cracks (B6) tion Visible on Aerial (Stained Leaves (B9)) ervations: ater Present?	ine) nriverine) rine) Imagery (B7)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed So Other (Explain in Remarks)	Secondary II Water M Sedimer Drift Der Drainag Dry-Sea Roots (C3) Thin Mu Crayfish Dils (C6) Saturati	ndicators (2 or more required) larks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C Aquitard (D3)
YDROLO Vetland H Primary Inc Surface High W Satura Vater Sedime Unift Do Water- Gurface Water Table	ydrology Indicators: dicators (any one indicater (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver ent Deposits (B2) (No eposits (B3) (Nonrive e Soil Cracks (B6) tion Visible on Aerial I Stained Leaves (B9) ervations: ater Present? y	ine) nriverine) rine) Imagery (B7) Yes \(\) No	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks)	Secondary II Water M Sedimer Drift Der Drainag Dry-Sea Roots (C3) Thin Mu Crayfish Dils (C6) Saturati	ndicators (2 or more required) larks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C Aquitard (D3)
YDROLO Vetland H Vrimary Inc Surface High W Satura Vater Sedime Vater- ield Obse	DGY ydrology Indicators: dicators (any one indicater (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverent Deposits (B2) (Nonriverent Deposits (B3) (Nonriverent Deposits (B6) tion Visible on Aerial (Stained Leaves (B9) ervations: ater Present? Present? Y	ine) nriverine) rine) Imagery (B7) Yes \(\) No	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed So Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary II Water M Sedimen Drift Dep Drainag Dry-Sea Roots (C3) Thin Mu Crayfish Dils (C6) Saturati	Indicators (2 or more required) Itarks (B1) (Riverine) Int Deposits (B2) (Riverine) Itarks (B3) (Riverine) Itarks (B3) (Riverine) Itarks (B3) (Riverine) Itarks (B4) Itarks (B
YDROLO Vetland H Primary Inc Surface High W Satura Drift Do Surface Water- Gurface Water- Field Obsets Vater Table Saturation Includes ca	ydrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverent Deposits (B2) (Nonriverent Deposits (B3)) e Soil Cracks (B6) tion Visible on Aerial (Stained Leaves (B9)) ervations: ater Present? e Present? Present? apillary fringe)	ine) nriverine) rine) Imagery (B7) Yes \text{No} \text{No} \text{Voc} Yes \text{No} \text{No} \text{No}	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks) Depth (inches): Depth (inches):	Secondary In Water M Sedimen Drift Dep Drainag Dry-Sea Thin Mu Crayfish Dils (C6) Saturati Shallow FAC-Ne	Indicators (2 or more required) Itarks (B1) (Riverine) Int Deposits (B2) (Riverine) Itarks (B3) (Riverine) Itarks (B3) (Riverine) Itarks (B3) (Riverine) Itarks (B4) Itarks (B
YDROLO Vetland H Primary Inc Surface High W Satura Drift Do Surface Water- Gurface Water- Field Obsets Vater Table Saturation Includes ca	ydrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverent Deposits (B2) (Nonriverent Deposits (B3)) e Soil Cracks (B6) tion Visible on Aerial (Stained Leaves (B9)) ervations: ater Present? e Present? Present? apillary fringe)	ine) nriverine) rine) Imagery (B7) Yes \text{No} \text{No} \text{Voc} Yes \text{No} \text{No} \text{No}	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed So Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary In Water M Sedimen Drift Dep Drainag Dry-Sea Thin Mu Crayfish Dils (C6) Saturati Shallow FAC-Ne	Indicators (2 or more required) Itarks (B1) (Riverine) Int Deposits (B2) (Riverine) Itarks (B3) (Riverine) Itarks (B3) (Riverine) Itarks (B3) (Riverine) Itarks (B4) Itarks (B
YDROLO Vetland H Primary Inc Surface High W Satura Water Sedime Unift Do Water- Field Obse Surface Water Table Saturation Includes ca	ydrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver) ent Deposits (B2) (Nonriver) ent Deposits (B3) (Nonriver) ent Cracks (B6) tion Visible on Aerial (Stained Leaves (B9)) ervations: ater Present? Present? Apillary fringe)	ine) nriverine) rine) Imagery (B7) Yes \text{No} \text{No} \text{Voc} Yes \text{No} \text{No} \text{No}	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks) Depth (inches): Depth (inches):	Secondary In Water M Sedimen Drift Dep Drainag Dry-Sea Thin Mu Crayfish Dils (C6) Saturati Shallow FAC-Ne	Indicators (2 or more required) Itarks (B1) (Riverine) Int Deposits (B2) (Riverine) Itarks (B3) (Riverine) Itarks (B3) (Riverine) Itarks (B3) (Riverine) Itarks (B4) Itarks (B
YDROL(Vetland H Primary Inc. Surface High W Satura Water Sedime Unift De Water- Field Observators Water Table Surface Water Table Staturation Includes capescribe R	ydrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver) ent Deposits (B2) (Nonriver) ent Deposits (B3) (Nonriver) ent Cracks (B6) tion Visible on Aerial (Stained Leaves (B9)) ervations: ater Present? Present? Apillary fringe)	ine) nriverine) rine) Imagery (B7) Yes \text{No} \text{No} \text{Voc} Yes \text{No} \text{No} \text{No}	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks) Depth (inches): Depth (inches):	Secondary In Water M Sedimen Drift Dep Drainag Dry-Sea Thin Mu Crayfish Dils (C6) Saturati Shallow FAC-Ne	Indicators (2 or more required) Itarks (B1) (Riverine) Int Deposits (B2) (Riverine) Itarks (B3) (Riverine) Itarks (B3) (Riverine) Itarks (B3) (Riverine) Itarks (B4) Itarks (B
YDROLO Vetland H Primary Inc Surface High W Satura Drift Do Surface Water- Gurface Water- Field Obsets Vater Table Saturation Includes ca	ydrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver) ent Deposits (B2) (Nonriver) ent Deposits (B3) (Nonriver) ent Cracks (B6) tion Visible on Aerial (Stained Leaves (B9)) ervations: ater Present? Present? Apillary fringe)	ine) nriverine) rine) Imagery (B7) Yes \text{No} \text{No} \text{Voc} Yes \text{No} \text{No} \text{No}	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks) Depth (inches): Depth (inches):	Secondary In Water M Sedimen Drift Dep Drainag Dry-Sea Thin Mu Crayfish Dils (C6) Saturati Shallow FAC-Ne	Indicators (2 or more required) Itarks (B1) (Riverine) Int Deposits (B2) (Riverine) Itarks (B3) (Riverine) Itarks (B3) (Riverine) Itarks (B3) (Riverine) Itarks (B4) Itarks (B
emarks: //DROLO /etland H rimary Inc Surface High W Satura Water Sedime Unific Do Guide Surface Water- ield Obse urface Water Table aturation ncludes calescribe R	ydrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver) ent Deposits (B2) (Nonriver) ent Deposits (B3) (Nonriver) ent Cracks (B6) tion Visible on Aerial (Stained Leaves (B9)) ervations: ater Present? Present? Apillary fringe)	ine) nriverine) rine) Imagery (B7) Yes \text{No} \text{No} \text{Voc} Yes \text{No} \text{No} \text{No}	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks) Depth (inches): Depth (inches):	Secondary In Water M Sedimen Drift Dep Drainag Dry-Sea Thin Mu Crayfish Dils (C6) Saturati Shallow FAC-Ne	Indicators (2 or more required) Itarks (B1) (Riverine) Int Deposits (B2) (Riverine) Itarks (B3) (Riverine) Itarks (B3) (Riverine) Itarks (B3) (Riverine) Itarks (B4) Itarks (B
emarks: //DROLO /etland H rimary Inc Surface Water Sedime Surface Ununda Water- ield Obse urface Water Tabl aturation ncludes caescribe R	ydrology Indicators: dicators (any one indicators (any one indicators) e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriver) ent Deposits (B2) (Nonriver) ent Deposits (B3) (Nonriver) ent Cracks (B6) tion Visible on Aerial (Stained Leaves (B9)) ervations: ater Present? Present? Apillary fringe)	ine) nriverine) rine) Imagery (B7) Yes \text{No} \text{No} \text{Voc} Yes \text{No} \text{No} \text{No}	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc Other (Explain in Remarks) Depth (inches): Depth (inches):	Secondary In Water M Sedimen Drift Dep Drainag Dry-Sea Thin Mu Crayfish Dils (C6) Saturati Shallow FAC-Ne	Indicators (2 or more required) Itarks (B1) (Riverine) Int Deposits (B2) (Riverine) Itarks (B3) (Riverine) Itarks (B3) (Riverine) Itarks (B3) (Riverine) Itarks (B4) Itarks (B

Project/Site: Pure Water Program		City/Count	y:Santee/Sa	n Diego	Sam	npling Date:()9/28/20	16
Applicant/Owner: City of San Diego				State:CA	Sam	pling Point:1	6b	
Investigator(s): Katie Dayton, Danielle Mullen		Section, T	ownship, Rar	nge: 18, 15S, 1E		_		
Landform (hillslope, terrace, etc.):		Local relie	ef (concave, o	convex, none): None	e	Slo	pe (%):()	
Subregion (LRR):C - Mediterranean California	Lat:32.8	37		Long:-116.92		Datu	ım:	
Soil Map Unit Name: Riverwash				NWI cla	assification	Riverine		
Are climatic / hydrologic conditions on the site typical for this	time of ye	ear? Yes	No C	(If no, explain	n in Remar	ks.)		
Are Vegetation Soil or Hydrology sig	nificantly	disturbed?	Are "	Normal Circumstan	ces" prese	nt? Yes 💿	No	0
Are Vegetation Soil or Hydrology na	turally pro	oblematic?	(If ne	eded, explain any a	nswers in I	Remarks.)		
SUMMARY OF FINDINGS - Attach site map sh	howing	samplin	g point lo	cations, transe	ects, imp	oortant fe	atures,	etc.
Hydrophytic Vegetation Present? Yes (No	•							
	•	ls t	he Sampled	Area				
Wetland Hydrology Present? Yes No Remarks:	•	wit	hin a Wetlan	d? Yes	0	No ①		
VEGETATION								
A	Absolute	Dominant	Indicator	Dominance Test	workshee	t:		
	% Cover	Species?	Status	Number of Domin				
1				That Are OBL, FA	CW, or FA	C: ()	(A)
2				Total Number of D				(D)
3. 4.				Species Across A	II Strata:	C)	(B)
Total Cover:	%			Percent of Domina		_		(A /D)
Sapling/Shrub Stratum	/0			That Ale OBL, FA	CVV, OI FA	C: () %	(A/B)
1.Tamarix ramosissima	2	No	Not Listed	Prevalence Index				
2-Arundo donax	2	No	FACW	Total % Cove	r of:	Multipl	, ,	-
3. Baccharis sarothroides	6	No	FACU	OBL species	2	x 1 =	0	
4				FACW species FAC species	2	x 2 = x 3 =	4	
5 Total Cover:	10 %			FACU species	6	x 4 =	24	
Herb Stratum	10 %			UPL species	6 27	x 5 =	135	
1-Salix tracyi	5	No	Not Listed	Column Totals:	35	(A)	163	(B)
2. Glebionis coronaria (dead)	10	No	Not Listed			. ,		. ,
3.Brassica nigra (dead)	10	No	Not Listed	Prevalence			4.66	
4				Hydrophytic Veg Dominance T				
5.				Prevalence Ir				
6				Morphologica			supporti	na
7						n a separate		''9
Total Cover:	25 %			Problematic H	Hydrophytic	CVegetation ¹	(Explain	1)
Woody Vine Stratum	25 %							
1		-		¹ Indicators of hyd be present.	ric soil and	d wetland hy	drology i	must
Total Cover:	%			Hydrophytic				
% Bare Ground in Herb Stratum 75 % % Cover of	of Biotic C	Crust	%	Vegetation Present?	Yes 🔘	No ()	
Remarks:				<u> </u>				

SOIL Sampling Point: 16b

Depth (inches)	Matrix Color (moist)	<u></u> %	Redox Features Color (moist) % Type¹ Lo	c ² Texture ³	Remarks
,			Color (moist) % Type ¹ Lo		Remarks
0-16	10 YR 3/2			Sandy clay loam	
	-				
	-				
	-				
	Concentration, D=Dep			ng, RC=Root Channel, M=	
			oam, Sandy Clay Loam, Sandy Loam, Clay		_
_		le to all LRRs	, unless otherwise noted.)		blematic Hydric Soils:
Histoso	. ,		Sandy Redox (S5)	1 cm Muck (A	, ,
	Epipedon (A2)		Stripped Matrix (S6)		A10) (LRR B)
	listic (A3) en Sulfide (A4)		Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2)	Reduced Ver	Material (TF2)
	, ,	~ \			, ,
	ed Layers (A5) (LRR (luck (A9) (LRR D)	•)	Depleted Matrix (F3) Redox Dark Surface (F6)		in in Remarks)
	ed Below Dark Surfac	e (A11)	Depleted Dark Surface (F7)		
	Park Surface (A12)	0 (/111)	Redox Depressions (F8)		
	Mucky Mineral (S1)		Vernal Pools (F9)	⁴ Indicators of hvd	rophytic vegetation and
	Gleyed Matrix (S4)				logy must be present.
	Layer (if present):				
Type:					
Depth (ir	nches):			Hydric Soil Prese	ent? Yes No 💿
. `	nches):			Hydric Soil Prese	ent? Yes No No
Remarks:				Hydric Soil Prese	ent? Yes No No
demarks:	DGY				
YDROLO	OGY ydrology Indicators:			Secondary I	ndicators (2 or more required)
YDROLO Vetland Hy	DGY		ent)	Secondary I	
YDROLO Vetland Hy rimary Ind Surface	OGY vdrology Indicators: icators (any one indices Water (A1)		Salt Crust (B11)	Secondary II Water M	ndicators (2 or more required) Marks (B1) (Riverine) nt Deposits (B2) (Riverine)
YDROLO Vetland Hy rimary Ind	OGY vdrology Indicators: icators (any one indic			Secondary II Water M	ndicators (2 or more required) farks (B1) (Riverine)
YDROLO Vetland Hy rimary Ind Surface High W	OGY vdrology Indicators: icators (any one indices Water (A1)		Salt Crust (B11)	Secondary II Water M Sedimel	ndicators (2 or more required) Marks (B1) (Riverine) nt Deposits (B2) (Riverine)
YDROLO Vetland Hy Primary Ind Surface High W Saturat	OGY Idrology Indicators: icators (any one indicators) Water (A1) Idrater Table (A2)	ator is sufficie	Salt Crust (B11) Biotic Crust (B12)	Secondary II Water N Sedimer Drift Der Drainag	ndicators (2 or more required) Marks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine)
YDROLO Vetland Hy Primary Ind Surface High W Saturat Water I	odrology Indicators: icators (any one indicators) water (A1) ater Table (A2) ion (A3)	ator is sufficie	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	Secondary II Water M Sedimel Drift Del Drainag Dry-Sea	ndicators (2 or more required) Marks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10)
YDROLO Vetland Hy Primary Ind Surface High W Saturat Water I Sedime	OGY /drology Indicators: icators (any one indice Water (A1) /ater Table (A2) ion (A3) Marks (B1) (Nonriver	ator is sufficie ine) nriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Secondary II Water M Sedimen Drift De Drainag Dry-Sea	ndicators (2 or more required) Marks (B1) (Riverine) Int Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) ason Water Table (C2)
YDROLO Vetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De	ydrology Indicators: icators (any one indicators) (any one indicators) (any one indicators) (atternation (A1) (atternation (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3)	ator is sufficie ine) nriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living	Secondary II Water M Sedimer Drift De Drainag Dry-Sea Roots (C3) Thin Mu	ndicators (2 or more required) flarks (B1) (Riverine) nt Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) ason Water Table (C2) ack Surface (C7)
YDROLO Vetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De	ody odrology Indicators: icators (any one indicators) (any one indicators) (any one indicators) (ater Table (A2) dion (A3) Marks (B1) (Nonriver ant Deposits (B2) (Noneposits (B3) (Nonriver)	ator is sufficie ine) nriverine) rine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc	Secondary II Water M Sedimer Drift De Drainag Dry-Sea G Roots (C3) Thin Mu Crayfish oils (C6) Saturati	ndicators (2 or more required) Marks (B1) (Riverine) Int Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) ason Water Table (C2) ack Surface (C7) a Burrows (C8) on Visible on Aerial Imagery (C5)
YDROLO Vetland Hy rimary Ind Surface High W Saturat Water I Sedime Drift De	drology Indicators: icators (any one indicators) water (A1) dater Table (A2) ion (A3) Marks (B1) (Nonriver ant Deposits (B2) (No eposits (B3) (Nonrive e Soil Cracks (B6) tion Visible on Aerial I	ator is sufficie ine) nriverine) rine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)	Secondary II Water N Sedimer Drift Der Drainag Dry-Sea Roots (C3) Thin Mu Crayfish oils (C6) Saturati Shallow	Indicators (2 or more required) Marks (B1) (Riverine) Int Deposits (B2) (Riverine) Int Deposits (B3) (Riverine) Int Deposits (B4) (R
YDROLO Vetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface Inundat	ydrology Indicators: icators (any one indicators) water (A1) vater Table (A2) varks (B1) (Nonriver) ent Deposits (B2) (Nonriver) esposits (B3) (No	ator is sufficie ine) nriverine) rine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc	Secondary II Water N Sedimer Drift Der Drainag Dry-Sea Roots (C3) Thin Mu Crayfish oils (C6) Saturati Shallow	ndicators (2 or more required) Marks (B1) (Riverine) Int Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) ason Water Table (C2) ack Surface (C7) a Burrows (C8) on Visible on Aerial Imagery (C8) Aquitard (D3)
YDROLO Vetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface Unundar Water-S	ydrology Indicators: icators (any one indicators (any one indicators) water (A1) dater Table (A2) ion (A3) Marks (B1) (Nonriver) ent Deposits (B2) (Nonriver) es Soil Cracks (B6) tion Visible on Aerial I Stained Leaves (B9) rvations:	ine) nriverine) rine) magery (B7)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Scott	Secondary II Water N Sedimer Drift Der Drainag Dry-Sea Roots (C3) Thin Mu Crayfish oils (C6) Saturati Shallow	ndicators (2 or more required) Marks (B1) (Riverine) Int Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) ason Water Table (C2) ack Surface (C7) a Burrows (C8) on Visible on Aerial Imagery (C9 Aquitard (D3)
YDROLO Vetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface Inundat Water-S Gurface Water-S	pogy Idrology Indicators: icators (any one indicators) Water (A1) Idater Table (A2)	ine) nriverine) rine) magery (B7)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solution (Explain in Remarks) Depth (inches):	Secondary II Water N Sedimer Drift Der Drainag Dry-Sea Roots (C3) Thin Mu Crayfish oils (C6) Saturati Shallow	ndicators (2 or more required) Marks (B1) (Riverine) Int Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) ason Water Table (C2) ack Surface (C7) a Burrows (C8) on Visible on Aerial Imagery (C9 Aquitard (D3)
YDROLO Vetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface Inundar Water-S Field Obse Surface Wa	ydrology Indicators: icators (any one indicators) water (A1) vater Table (A2) varks (B1) (Nonriver) ent Deposits (B2) (Nonriver) esposits (B3) (No	ine) nriverine) rine) magery (B7) es	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Scotton (Explain in Remarks) Depth (inches): Depth (inches):	Secondary II Water N Sedimer Drift Der Drainag Dry-Sea Roots (C3) Thin Mu Crayfish oils (C6) Saturati Shallow	ndicators (2 or more required) Marks (B1) (Riverine) Int Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) ason Water Table (C2) ack Surface (C7) a Burrows (C8) on Visible on Aerial Imagery (C5) Aquitard (D3)
YDROLO Vetland Hy Primary Ind Surface High W Saturat Vater I Sedime Unundar Water-S Field Obse Surface Water Table Saturation F	order of the present?	ine) nriverine) magery (B7) es	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Scotton (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary II Water M Sedimen Drift De Drainag Dry-Sea GRoots (C3) Thin Mu Crayfish oils (C6) Saturati Shallow FAC-Ne	Indicators (2 or more required) Marks (B1) (Riverine) Int Deposits (B2) (Riverine) Int Deposits (B3) (Riverine) Int Patterns (B10) Int Patterns (B10) Int Patterns (B10) Int Surface (C7) Int Burrows (C8) Int Surface (C7) Int Surface (C7) Int Surface (C3) Int Surface (C5) Int Su
YDROLO Vetland Hy Primary Ind Surface High W Saturat Vater I Sedime Unift De Surface Vater-Sield Obse Surface Wa Vater Table Saturation Fincludes ca	order of the present? The present? The present? The product of the present? The product of the present? The present? The product of the present? The present pr	ine) nriverine) rine) magery (B7) es	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solution Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary II Water N Sedime Drift De Drainag Dry-Sea Roots (C3) Thin Mu Crayfish oils (C6) Saturati Shallow FAC-Ne	Indicators (2 or more required) Marks (B1) (Riverine) Int Deposits (B2) (Riverine) Int Deposits (B3) (Riverine) Int Patterns (B10) Int Patterns (B10) Int Patterns (B10) Int Surface (C7) Int Burrows (C8) Int Surface (C7) Int Surface (C7) Int Surface (C3) Int Surface (C5) Int Su
YDROLO Vetland Hy Primary Ind Surface High W Saturat Vater I Sedime Unift De Surface Vater-Sield Obse Surface Wa Vater Table Saturation Fincludes ca	order of the present? The present? The present? The product of the present? The product of the present? The present? The product of the present? The present pr	ine) nriverine) rine) magery (B7) es	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Scotton (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary II Water N Sedime Drift De Drainag Dry-Sea Roots (C3) Thin Mu Crayfish oils (C6) Saturati Shallow FAC-Ne	Indicators (2 or more required) Marks (B1) (Riverine) Int Deposits (B2) (Riverine) Int Deposits (B3) (Riverine) Int Patterns (B10) Int Patterns (B10) Int Patterns (B10) Int Surface (C7) Int Burrows (C8) Int Surface (C7) Int Surface (C7) Int Surface (C3) Int Surface (C5) Int Su
YDROLO Vetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface Inundar Water-S Field Obse Surface Wa Vater Table Saturation F includes ca	order of the present? The present? The present? The product of the present? The product of the present? The present? The product of the present? The present pr	ine) nriverine) rine) magery (B7) es	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solution Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary II Water N Sedime Drift De Drainag Dry-Sea Roots (C3) Thin Mu Crayfish oils (C6) Saturati Shallow FAC-Ne	Indicators (2 or more required) Marks (B1) (Riverine) Int Deposits (B2) (Riverine) Int Deposits (B3) (Riverine) Int Patterns (B10) Int Patterns (B10) Int Patterns (B10) Int Surface (C7) Int Burrows (C8) Int Surface (C7) Int Surface (C8) Int Surface (C9) Int Su
YDROLO Vetland Hy Primary Ind Surface High W Saturat Vater I Sedime Unift De Surface Vater-S Field Obse Surface Wa Vater Table Saturation Fincludes ca	order of the present? The present? The present? The product of the present? The product of the present? The present? The product of the present? The present pr	ine) nriverine) rine) magery (B7) es	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solution Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary II Water N Sedime Drift De Drainag Dry-Sea Roots (C3) Thin Mu Crayfish oils (C6) Saturati Shallow FAC-Ne	Indicators (2 or more required) Marks (B1) (Riverine) Int Deposits (B2) (Riverine) Int Deposits (B3) (Riverine) Int Patterns (B10) Int Patterns (B10) Int Patterns (B10) Int Surface (C7) Int Burrows (C8) Int Surface (C7) Int Surface (C8) Int Surface (C9) Int Su
YDROLO Vetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface Inundar Water-S Field Obse Surface Wa Vater Table Saturation F Includes ca	order of the present? The present? The present? The product of the present? The product of the present? The present? The product of the present? The present pr	ine) nriverine) rine) magery (B7) es	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solution Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary II Water N Sedime Drift De Drainag Dry-Sea Roots (C3) Thin Mu Crayfish oils (C6) Saturati Shallow FAC-Ne	Indicators (2 or more required) Marks (B1) (Riverine) Int Deposits (B2) (Riverine) Int Deposits (B3) (Riverine) Int Patterns (B10) Int Patterns (B10) Int Patterns (B10) Int Surface (C7) Int Burrows (C8) Int Surface (C7) Int Surface (C7) Int Surface (C3) Int Surface (C5) Int Su
Vetland Hy rimary Ind Surface High W Saturat Sedime Drift De Surface Inundar Water-S ield Obse surface Wa Vater Table saturation F ncludes ca	order of the present? The present? The present? The product of the present? The product of the present? The present? The product of the present? The present pr	ine) nriverine) rine) magery (B7) es	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solution Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary II Water N Sedime Drift De Drainag Dry-Sea Roots (C3) Thin Mu Crayfish oils (C6) Saturati Shallow FAC-Ne	Indicators (2 or more required) Marks (B1) (Riverine) Int Deposits (B2) (Riverine) Int Deposits (B3) (Riverine) Int Patterns (B10) Int Patterns (B10) Int Patterns (B10) Int Surface (C7) Int Burrows (C8) Int Surface (C7) Int Surface (C7) Int Surface (C8) Int Surface (C9) Int Su
Principle of the control of the cont	order of the present? The present? The present? The product of the present? The product of the present? The present? The product of the present? The present pr	ine) nriverine) rine) magery (B7) es	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solution Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches):	Secondary II Water N Sedime Drift De Drainag Dry-Sea Roots (C3) Thin Mu Crayfish oils (C6) Saturati Shallow FAC-Ne	Indicators (2 or more required) Marks (B1) (Riverine) Int Deposits (B2) (Riverine) Int Deposits (B3) (Riverine) Int Patterns (B10) Int Patterns (B10) Int Patterns (B10) Int Surface (C7) Int Burrows (C8) Int Visible on Aerial Imagery (Called Aquitard (D3) Interview (D5)

Project/Site: Pure Water Program		City/Coun	y:Miramar/	San Diego	San	npling Date: 1	0/05/20	116
Applicant/Owner: City of San Diego				State:CA	San	npling Point:	7a	
Investigator(s): Callie Ford, Patricia Schuyler		Section, T	ownship, Ra	nge: 16, 15S, 3W		_		
Landform (hillslope, terrace, etc.): Channel		Local relie	ef (concave,	convex, none):Conc	ave	Slo	pe (%):1	
Subregion (LRR):C - Mediterranean California	Lat:32.8	37		Long:117.18		Datu	ım:	
Soil Map Unit Name: Redding cobbly loam				NWI cla	ssification	: None		
Are climatic / hydrologic conditions on the site typical for this	time of ye	ear? Yes (No ((If no, explain	ı in Remai	rks.)		
		disturbed?		'Normal Circumstand			No	\bigcirc
		oblematic?		eeded, explain any a	nswers in	Remarks.)		
SUMMARY OF FINDINGS - Attach site map si							atures,	, etc.
Hydrophytic Vegetation Present? Yes No								
		Is t	he Sampled	Area				
Wetland Hydrology Present? Yes No	Ō	wit	hin a Wetlar	nd? Yes	•	No 🔘		
Remarks: This area has experienced drought and no re	ecent rain	nfall.						
VEGETATION								
VEGETATION								
-	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test				
1.	70 0010.	<u>- </u>		Number of Domina That Are OBL, FA				(A)
2.								` '
3.				 Total Number of D Species Across AI 		7)	(B)
4.							•	,
Total Cover:	%			 Percent of Domina That Are OBL, FA 			0.0 %	(A/B)
Sapling/Shrub Stratum	1.0	NT.		Prevalence Index	worksho			
1.Baccharis salicifolia 2.	10	No	FAC	Total % Cover		et: Multipl	ly by:	
3.				OBL species	01.	x 1 =	0	-
4.				FACW species	15	x 2 =	30	
5.		-	-	FAC species	60	x 3 =	180	
Total Cover:	10 %			FACU species	2	x 4 =	8	
Herb Stratum				UPL species	2	x 5 =	10	
1-Rumex crispus	50	Yes	FAC	Column Totals:	79	(A)	228	(B)
2-Ambrosia psilostachya	2	No	FACU	Prevalence I	ndov – B	/Λ _	2.00	
3. Juncus dubius (dead)	15	No	FACW	Hydrophytic Vege			2.89	
4.Hirschfeldia incana	2	No	Not Listed	Dominance Te				
5. <i>Unidentifiable grasses</i> 6.	20	Yes		× Prevalence In				
7.				Morphological			supporti	ng
8.						n a separate	,	
Total Cover:	89 %			Problematic H	lydrophyti	c Vegetation	(Explain	1)
Woody Vine Stratum	07 %			4				
1				¹ Indicators of hydrone be present.	ric soil an	d wetland hy	drology r	must
2								
Total Cover:	%			Hydrophytic Vegetation				
% Bare Ground in Herb Stratum10 % Cover	of Biotic C	Crust	%	Present?	Yes 💿	No (
Remarks:				1				

SOIL Sampling Point: 17a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features								
(inches)	Color (moist)	% (Color (moist)		rpe ¹ Loc ²	Texture ³	Remarks	
0-4	10 YR 3/2	90 5 Y	R 4/6	10 C		Silty clay loam	Redox Loc is PL and M	
	-							
	-					_	_	
							-	
							-	
						_	_	
1= 0 (December 19 Decemb	Indian DM D	deres di Martico	21				
. * '	Concentration, D=Dep				-	RC=Root Channel,	M=Matrix. m, Silt Loam, Silt, Loamy Sand, San	
	Indicators: (Applicable				Loam, Olay Lo		Problematic Hydric Soils:	
Histoso		, , , , , , , , , , , , , , , , , , , ,	Sandy Redo	•			ck (A9) (LRR C)	
	Epipedon (A2)		Stripped M	` '			ck (A10) (LRR B)	
	Histic (A3)			cky Mineral (F1	•		Vertic (F18)	
	jen Sulfide (A4) ed Layers (A5) (LRR (•)	Depleted N	yed Matrix (F2) latrix (F3)			ent Material (TF2) xplain in Remarks)	
	luck (A9) (LRR D)	•)		k Surface (F6)		Guiler (E)	chair in remarks)	
	ed Below Dark Surface	e (A11)	Depleted D	ark Surface (F	7)			
	Dark Surface (A12)			ressions (F8)		4		
	Mucky Mineral (S1)		Vernal Poo	ls (F9)			hydrophytic vegetation and drology must be present.	
	Gleyed Matrix (S4) Layer (if present):					welland ny	ratology must be present.	
	ardpan/dry hard soil	c						
	nches):4"+					Hydric Soil Pi	resent? Yes No	
Remarks:	,							
IVDD OL 4	201							
IYDROLO	_							
	ydrology Indicators:	:-:	4)				ary Indicators (2 or more required)	
	licators (any one indicators (AA)	ator is sufficien		· (D44)			er Marks (B1) (Riverine)	
	e Water (A1) /ater Table (A2)		Salt Crus	` '			iment Deposits (B2) (Riverine) Deposits (B3) (Riverine)	
	tion (A3)			si (b i <i>z)</i> ivertebrates (B	13)		nage Patterns (B10)	
	Marks (B1) (Nonriver i	ne)		Sulfide Odor (,		Season Water Table (C2)	
	ent Deposits (B2) (No	,		Rhizospheres a			Muck Surface (C7)	
	eposits (B3) (Nonrive			of Reduced Iro		· · · —	yfish Burrows (C8)	
X Surface	e Soil Cracks (B6)		Recent Ire	on Reduction in	Plowed Soils	(C6) Satu	uration Visible on Aerial Imagery (C9)	
Inunda	tion Visible on Aerial I	magery (B7)	Other (Ex	plain in Remarl	(S)	Sha	llow Aquitard (D3)	
Water-	Stained Leaves (B9)					FAC	C-Neutral Test (D5)	
Field Obse	rvations:							
		es O No	~	· —				
Water Table		es No		· —				
Saturation I	Present? Y apillary fringe)	es O No	Depth (ir	iches):	We	tland Hydrology F	Present? Yes No	
	ecorded Data (stream	gauge, monito	ring well, aerial	photos, previou				
Remarks:								
S Army Corr	os of Engineers							

Project/Site: Pure Water Program		City/Count	y:Miramar/	San Diego	Sam	pling Date:	10/05/20	16
Applicant/Owner: City of San Diego				State:CA	Sam	pling Point:	17b	
Investigator(s):Callie Ford, Patricia Schuyler		Section, T	ownship, Rai	nge: 16, 15S, 3W				
Landform (hillslope, terrace, etc.): Channel		Local relie	ef (concave, o	convex, none):Cond	cave	SI	ope (%):1	
Subregion (LRR):C - Mediterranean California	Lat:32.8	37		Long:117.18		 Dat	tum:	
Soil Map Unit Name: Redding cobbly loam				NWI cla	ssification:	None		
Are climatic / hydrologic conditions on the site typical for this	time of ye	ear? Yes (No ((If no, explain	n in Remar	ks.)		
		disturbed?		Normal Circumstan	ces" preser	nt? Yes	No	\circ
		oblematic?		eded, explain any a			/	
SUMMARY OF FINDINGS - Attach site map si							eatures,	etc.
_	0							
		ls t	he Sampled	Area				
	Õ		hin a Wetlan		0	No 💿		
Remarks: Drought conditions.		- I						
VEGETATION								
	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test				
1.Salix lasiolepis	20	Yes	FACW	Number of Domina That Are OBL, FA			2	(A)
2.						0.	L	(, ,)
3.				Total Number of D Species Across A			2	(B)
4.							<i>_</i>	(-)
Total Cover:	20 %			Percent of Domina That Are OBL, FA		_	00.0 %	(A/B)
Sapling/Shrub Stratum							70.0 %	(/
1.Baccharis salicifolia	50	Yes	FAC	Prevalence Index			a la . da	
2-Artemisia californica	1	No	Not Listed	Total % Cove	r or:	·	oly by:	-
3-Baccharis pilularis	1	No	Not Listed	OBL species FACW species	22	x 1 = x 2 =	0 44	
4				FAC species	55	x 3 =	165	
Total Cover:	52 %			FACU species	33	x 4 =	0	
Herb Stratum	32 70			UPL species	2.	x 5 =	10	
1.Unidentifiable grasses				Column Totals:	79	(A)	219	(B)
2. Cyperus eragrostis	2	No	FACW			, ,		
3.Rumex crispus	5	No	FAC	Prevalence			2.77	
4.				Hydrophytic Veg Dominance T				
5.				× Prevalence In				
6. 7.				Morphologica			e supporti	na
8.						n a separat		9
Total Cover:	7 0/			Problematic H	lydrophytic	Vegetation	າ¹ (Explain)
Woody Vine Stratum	7 %							
1				¹ Indicators of hyd be present.	ric soil and	d wetland h	ydrology r	must
2Total Cover:	%			Hydrophytic				
		`ruot	0/	Vegetation	Van G	No.	\sim	
% Bare Ground in Herb Stratum % Cover	טווטווט כ		<u>%</u>	Present?	Yes	No (J	
Remarks:								

SOIL Sampling Point: 17b

	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix Color (moist)	——————————————————————————————————————	Redo Color (moist)	x Features % Type	e ¹ Loc ²	Texture ³	Remarks		
0-4	10 YR 5/3		R 4/6	10 C		Silty loam	Redox Loc is PL and M		
	- 10 TK 3/3		K 4/0			Sifty Ioalii	Redox Loc is i L and ivi		
	-								
¹ Type: C=C	Concentration, D=Depl	etion, RM=Re	duced Matrix.	² Location: PL=F	ore Lining, R	C=Root Channel,	M=Matrix.		
³ Soil Textur	es: Clay, Silty Clay, S	andy Clay, Lo	am, Sandy Clay	Loam, Sandy Lo	am, Clay Loa		m, Silt Loam, Silt, Loamy Sand, Sand.		
1 -	Indicators: (Applicabl	e to all LRRs,		•			Problematic Hydric Soils:		
Histoso	` '		Sandy Redo	,			ck (A9) (LRR C) ck (A10) (LRR B)		
	pipedon (A2) listic (A3)		Stripped M	cky Mineral (F1)			Vertic (F18)		
1 📖	en Sulfide (A4)			yed Matrix (F2)			ent Material (TF2)		
Stratifie	ed Layers (A5) (LRR C	3)	Depleted N			Other (Ex	xplain in Remarks)		
	uck (A9) (LRR D)			k Surface (F6)					
	ed Below Dark Surface Park Surface (A12)	e (A11)		erk Surface (F7)					
	Mucky Mineral (S1)		Vernal Poo	ressions (F8)		⁴ Indicators of	hydrophytic vegetation and		
	Gleyed Matrix (S4)			10 (1 0)			/drology must be present.		
Restrictive	Layer (if present):								
Type:ha:	rd soil/hardpan								
Depth (ir	nches):4"+					Hydric Soil Pi	resent? Yes No		
Remarks: E	Based on the surrour	nding soil sa	mples (see 17a	a) and abundant	redox featu	ires, this is assu	med to be hydric soils.		
HYDROLO)GY								
	/drology Indicators:					Seconda	ary Indicators (2 or more required)		
1	icators (any one indica	ator is sufficier	nt)			· · · · · · · · · · · · · · · · · · ·	er Marks (B1) (Riverine)		
	Water (A1)	ator lo cambiol	Salt Crus	(B11)			iment Deposits (B2) (Riverine)		
	ater Table (A2)		Biotic Cru				Deposits (B3) (Riverine)		
1 <u> </u>	ion (A3)			vertebrates (B13)		inage Patterns (B10)		
Water I	Marks (B1) (Nonriveri	ne)	Hydrogen	Sulfide Odor (C1)	Dry-	Season Water Table (C2)		
Sedime	ent Deposits (B2) (Nor	riverine)	X Oxidized	Rhizospheres alo	ng Living Ro	ots (C3) 🔲 Thir	Muck Surface (C7)		
Drift De	eposits (B3) (Nonriver	ine)	Presence	of Reduced Iron	(C4)	Cra	yfish Burrows (C8)		
•••	e Soil Cracks (B6)			on Reduction in P	`	́ Ш	uration Visible on Aerial Imagery (C9)		
	tion Visible on Aerial I	magery (B7)	Other (Ex	plain in Remarks))		llow Aquitard (D3)		
	Stained Leaves (B9)					FAC	C-Neutral Test (D5)		
Field Obse		no O No	O Donth (in	abaa).					
		es No		· —					
Water Table		es No		· —					
Saturation F (includes ca	resent? You	es O No	Depth (ir		Wetl	and Hydrology F	Present? Yes No		
	ecorded Data (stream	gauge, monito	oring well, aerial	photos, previous					
Remarks:									
US Army Corr	os of Engineers								

Project/Site: Pure Water Program		City/Count	ty:Miramar/	San Diego	Sam	pling Date: 1	0/05/20	16
Applicant/Owner: City of San Diego				State:CA	Sam	pling Point:1	7c	
Investigator(s): Callie Ford, Patricia Schuyler		Section, T	ownship, Ra	nge: 16, 15S, 3W		_		
Landform (hillslope, terrace, etc.):		Local relie	ef (concave,	convex, none):Non	e	Slo	pe (%):	
Subregion (LRR):C - Mediterranean California	Lat:32.8	37		Long:117.18		Datu	m:	
Soil Map Unit Name: Redding cobbly loam				NWI cla	assification:	None		
Are climatic / hydrologic conditions on the site typical for this	time of ye	ear? Yes	No ((If no, explai	n in Remarl	ks.)		
		disturbed?		Normal Circumstan			No	\bigcirc
		oblematic?		eded, explain any a	nswers in F	Remarks.)		
SUMMARY OF FINDINGS - Attach site map sl							atures,	etc.
Hydrophytic Vegetation Present? Yes No	•							
	•	ls t	he Sampled	Area				
Wetland Hydrology Present? Yes No		wit	hin a Wetlar	nd? Yes	\circ	No 💿		
Remarks:								
VECETATION								
VEGETATION								
	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test				
1.				Number of Domin That Are OBL, FA				(A)
2.						_		` '
3.				Total Number of I Species Across A		2		(B)
4.				Percent of Domin	ont Species	_		
Total Cover:	%			That Are OBL, FA		_	.0 %	(A/B)
Sapling/Shrub Stratum	_	NT		Prevalence Index	v vvenkobo			
1 Baccharis salicifolia	5	No	FAC	Total % Cove		et: Multipl	v hv:	
2-Baccharis pilularis 3-Eriogonum fasciculatum	10 25	No Yes	Not Listed	OBL species	,, 01.	x 1 =	0	
4.Isocoma menziesii	20	Yes	Not Listed FAC	FACW species		x 2 =	0	
5.Acmispon glaber/Salix tracyi	1/5	No	Not Listed	FAC species	25	x 3 =	75	
Total Cover:	60 %			FACU species	20	x 4 =	0	
Herb Stratum				UPL species	35	x 5 =	175	
1.Grasses (dead)	10	No		Column Totals:	60	(A)	250	(B)
2				Prevalence	Index D/	٨	4 17	
3.				Hydrophytic Veg			4.17	
4.				Dominance T				
5.				Prevalence Ir				
7.				Morphologica			supporti	na
8.						n a separate		3
Total Cover:	10 %			Problematic I	Hydrophytic	Vegetation ¹	(Explain	1)
Woody Vine Stratum	10 %							
1				¹ Indicators of hyd be present.	lric soil and	l wetland hy	drology r	must
2								
Total Cover:	%			Hydrophytic Vegetation				
% Bare Ground in Herb Stratum % % Cover of	of Biotic C	Crust	%	Present?	Yes 🔘	No 💿)	
Remarks:				L				

US Army Corps of Engineers

SOIL Sampling Point: 17c

		to the depth n			or confire	m the absence of indi	cators.)
Depth (inches)	Matrix Color (moist)		Redo Color (moist)	x Features % Type ¹	Loc ²	Texture ³	Remarks
0-4	N/A	50	. (/			Gravel	
		. — —					
0-4	_ <u>10 YR 4/4</u>					Sandy loam	
		- <u> </u>					
	-			·	- ——		
					- ———		
	_						
	_						
. * *	Concentration, D=Dep				-	RC=Root Channel, M=N	
					n, Clay Loa		ilt Loam, Silt, Loamy Sand, Sand
	Indicators: (Applicab	le to all LRRs, u		•			plematic Hydric Soils:
Histoso	, ,		Sandy Redo	` '		1 cm Muck (A	, ,
	Epipedon (A2) Histic (A3)		Stripped Ma	atrix (56) ky Mineral (F1)		2 cm Muck (A Reduced Vert	, ,
	gen Sulfide (A4)			yed Matrix (F2)		Red Parent M	
	ed Layers (A5) (LRR (3)	Depleted M			Other (Explain	,
	/luck (A9) (LRR D)	-,		Surface (F6)		Out of (Explain	· ····································
	ed Below Dark Surfac	e (A11)		ark Surface (F7)			
Thick [Dark Surface (A12)			ressions (F8)			
Sandy	Mucky Mineral (S1)		Vernal Poo	ls (F9)		⁴ Indicators of hydr	ophytic vegetation and
Sandy	Gleyed Matrix (S4)	'				wetland hydrolo	ogy must be present.
Restrictive	Layer (if present):						
Type:Ha	ard soils, dry		_				
Depth (i	nches):4"+					Hydric Soil Preser	nt? Yes No 💿
Remarks:							
HYDROLO	ngy						
	ydrology Indicators:					Secondary In	dicators (2 or more required)
	dicators (any one indic	ator is sufficient	t)				arks (B1) (Riverine)
		ator is sumicient		(D11)			
	e Water (A1)		Salt Crust	` '			t Deposits (B2) (Riverine)
	Vater Table (A2)		Biotic Cru				osits (B3) (Riverine)
	tion (A3)	in a)		vertebrates (B13) Sulfide Odor (C1)			e Patterns (B10)
	Marks (B1) (Nonriver	,		` '	Living Do		son Water Table (C2)
ш	ent Deposits (B2) (No			Rhizospheres along	-		ck Surface (C7)
	eposits (B3) (Nonrive i e Soil Cracks (B6)	ine)		of Reduced Iron (C	,		Burrows (C8)
	` ,	magan, (D7)		on Reduction in Ploy	veu Solis (on Visible on Aerial Imagery (C9)
	ation Visible on Aerial I	magery (b7)	Other (Ex	olain in Remarks)			Aquitard (D3)
Field Obse	Stained Leaves (B9)					FAC-Net	utral Test (D5)
		an O Na A	Davide (in	-l\			
		es No (· —			
Water Tabl		es O No (· ————			
Saturation		es 🔵 No (Depth (in	ches):	Wet	land Hydrology Prese	ent? Yes No (•)
	apillary fringe) ecorded Data (stream	gauge, monito	ring well, aerial	photos, previous ins			163 () 140 (6)
Docombo	ooorada Bata (otroam	gaago, monto	inig won, aonai	priotoo, provious int	,	, ii availabio.	
Domorko:							
Remarks:							
JS Army Cor	ps of Engineers						

Project/Site: Pure Water Program		City/Count	y:Miramar/	San Diego	Sam	pling Date: 1	0/05/20	16
Applicant/Owner: City of San Diego				State:CA	Sam	pling Point:1	.8	
Investigator(s):Callie Ford, Patricia Schuyler		Section, T	ownship, Rai	nge: 30, 14S, 1E		_		
Landform (hillslope, terrace, etc.): Channel		Local relie	ef (concave, o	convex, none):Con	cave	Slo	pe (%):1	
Subregion (LRR):C - Mediterranean California	Lat:32.9	91		Long:116.91		 Datu	m:	
Soil Map Unit Name: Cieneba very rocky coarse sandy lo	– — oam			NWI cla	assification:	Lake/NA		
Are climatic / hydrologic conditions on the site typical for this		ar? Yes (No ((If no, explai	n in Remarl	ks.)		
		disturbed?		Normal Circumstan	ces" preser	nt? Yes	No	\circ
		oblematic?		eded, explain any a	•	_		
SUMMARY OF FINDINGS - Attach site map sl							atures,	, etc.
Hydrophytic Vegetation Present? Yes No	•							
	•	ls t	he Sampled	Area				
Wetland Hydrology Present? Yes No			hin a Wetlar		0	No 💿		
Remarks:Drought conditions.		<u> </u>						
VECETATION								
VEGETATION	NIIII	D	La d'a a ta a	D				
-	Absolute % Cover	Species?	Indicator Status	Dominance Test Number of Domin				
1.Quercus agrifolia	20	Yes	UPL	That Are OBL, FA				(A)
2.Populus fremontii	20	Yes	UPL	Total Number of D	Cominant			
3.				Species Across A		5	j	(B)
4.				Percent of Domina	ant Species			
Total Cover:	40 %			That Are OBL, FA		_	0.0 %	(A/B)
Sapling/Shrub Stratum	20	Van		Prevalence Index	v worksho			
1.Baccharis salicifolia 2.	20	Yes	FAC	Total % Cove		Multipl	v bv	
3.				OBL species	71 01:	x 1 =	0	-
4.				FACW species		x 2 =	0	
5.				FAC species	20	x 3 =	60	
Total Cover:	20 %			FACU species	30	x 4 =	120	
Herb Stratum				UPL species	40	x 5 =	200	
1-Ambrosia psilostachya	10	Yes	FACU	Column Totals:	90	(A)	380	(B)
2.				Prevalence	Indox - B/	۸ _	4.22	
3.				Hydrophytic Veg			4.22	
4. 5.				Dominance T				
6.				Prevalence Ir				
7.				Morphologica	al Adaptatio	ns¹ (Provide	supporti	ng
8.						n a separate		
Total Cover:	10 %			Problematic I	Hydrophytic	Vegetation ¹	(Explain	1)
Woody Vine Stratum				1				
1.Rubus armeniacus	20	Yes	FACU	¹ Indicators of hyd be present.	Iric soil and	wetland hy	drology r	must
2								
Total Cover:	20 %			Hydrophytic Vegetation				
% Bare Ground in Herb Stratum % Cover of	of Biotic C	rust	%	Present?	Yes 🔘	No 🧿)	
Remarks:								

SOIL Sampling Point: 18 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Loc² Texture³ (inches) Color (moist) Color (moist) Type¹ ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix. 3Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) 1 cm Muck (A9) (LRR C) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) Redox Dark Surface (F6) 1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) ⁴Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) wetland hydrology must be present. Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** No (Yes (Remarks: A soil sample was not taken due to the lack of wetland vegetation and lots of poison oak in the area. **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (2 or more required) Primary Indicators (any one indicator is sufficient) Water Marks (B1) (Riverine) Surface Water (A1) Salt Crust (B11) Sediment Deposits (B2) (Riverine) High Water Table (A2) Biotic Crust (B12) X Drift Deposits (B3) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Thin Muck Surface (C7) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Shallow Aquitard (D3) Water-Stained Leaves (B9) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes (No (Depth (inches): Water Table Present? Yes (No (Depth (inches):

Saturation Present? Depth (inches): Yes (No (Wetland Hydrology Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: The hydrology indicators are more apparent just upstream. US Army Corps of Engineers Arid West - Version 11-1-2006

Project/Site: Pure Water Program		City/Count	y:San Dieg	0	Sam	npling Date: 1	0/26/20	16
Applicant/Owner: City of San Diego				State:CA	Sam	pling Point:1	9a	
Investigator(s): Kathleen Dayton		Section, T	ownship, Ra	nge:21, 16S, 3W		_		
Landform (hillslope, terrace, etc.): Hillslope		Local relie	ef (concave,	convex, none):Cond	cave	Slo	pe (%):1(0
Subregion (LRR):C - Mediterranean California	Lat:32.7	762479		Long:-117.20001	.1	Datu	m:NAD	83
Soil Map Unit Name: Urban land				NWI cla	assification	:NA		
Are climatic / hydrologic conditions on the site typical for this	time of ye	ear? Yes (No ((If no, explain	n in Remar	ks.)		
Are Vegetation Soil or Hydrology sig	gnificantly	disturbed?	Are '	'Normal Circumstan	ces" prese	nt? Yes 💿	No	0
Are Vegetation Soil or Hydrology na	aturally pro	oblematic?	(If ne	eded, explain any a	nswers in	Remarks.)		
SUMMARY OF FINDINGS - Attach site map s	howing	samplin	ng point lo	ocations, transe	ects, imp	oortant fea	atures,	etc.
Hydrophytic Vegetation Present? Yes No	•							
		ls t	he Sampled	Area				
			hin a Wetlar		0	No 💿		
Remarks:Station located on the slope above the San I						110		
	C	Ü						
VEGETATION								
	Absolute		Indicator	Dominance Test	workshee	t:		
	% Cover	Species? Yes		Number of Domina				/ /
1. Eucalyptus sp. 2. Salix gooddingii	$\frac{10}{2}$	No	TACW	That Are OBL, FA	CVV, OF FA	C: 0		(A)
3.			TACW	Total Number of D Species Across A		2		(B)
4.						3	,	(D)
Total Cover:	12 %			 Percent of Domina That Are OBL, FA 		_	0 % ((A/B)
Sapling/Shrub Stratum							<i>J</i> 70 ((742)
1.Baccharis sarothroides	20	Yes	FACU	Prevalence Index			b	
2				OBL species	r or:	Multipl	<u>y by:</u>	
3				FACW species	2.	x 1 = x 2 =	4	
5.				FAC species	2	x 3 =	0	
Total Cover:	20 %			FACU species	20	x 4 =	80	
Herb Stratum				UPL species	50	x 5 =	250	
1.Pennisetum setaceum	40	Yes	Not Listed	Column Totals:	72	(A)	334	(B)
2.				Prevalence	Index - R/	Δ _	4.64	
3.				Hydrophytic Veg			4.04	
5.				Dominance T				
6.				Prevalence In				
7.				Morphologica	l Adaptatio	ns¹ (Provide	supportir	ng
8.						n a separate	,	
Total Cover:	40 %			Problematic F	Hydrophytic	: Vegetation	(Explain))
Woody Vine Stratum	10 /0			1 ndicators of hyd	ria aail aa	برط لمحملامين لم	drology	t
1				¹ Indicators of hyd be present.	ric soil and	a wetland ny	arology n	nust
2Total Cover:	0/			Hydrophytic				
				Vegetation				
% Bare Ground in Herb Stratum 60 % % Cover	of Biotic C	Crust	<u>%</u>	Present?	Yes 🔘	No 💽)	
Remarks:							_	

US Army Corps of Engineers

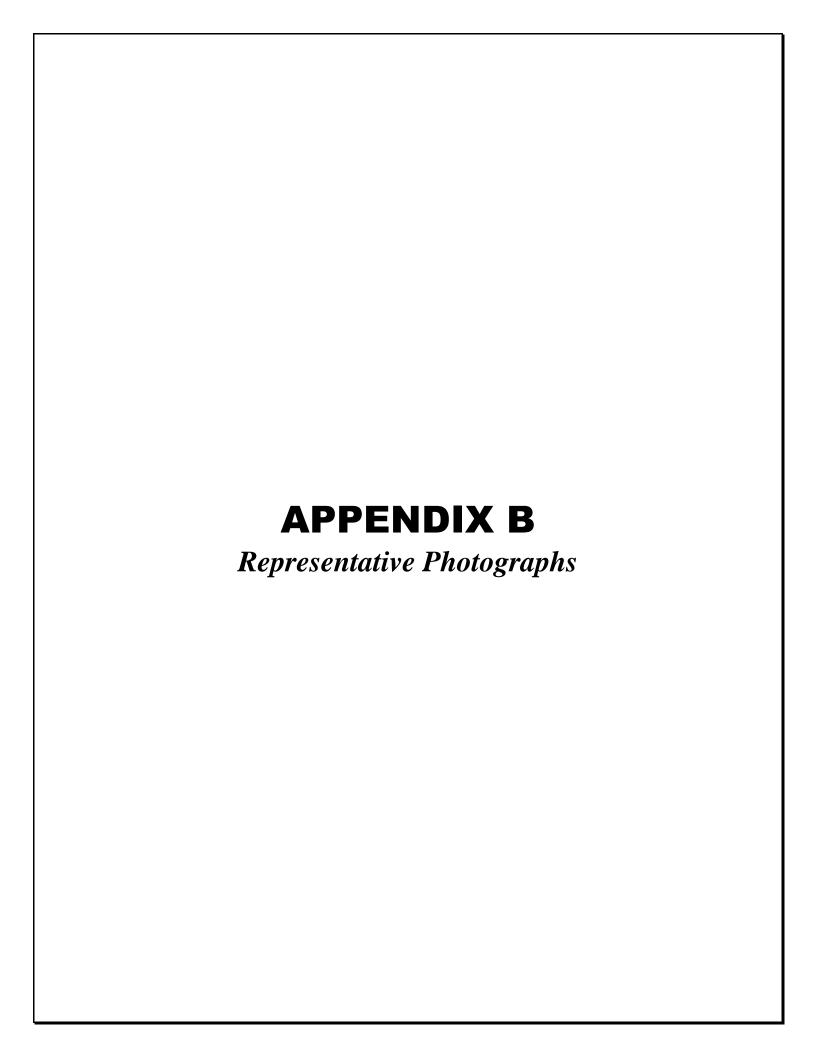
SOIL Sampling Point: 19a Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Loc² Color (moist) Texture³ (inches) Color (moist) Type¹ ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix. 3Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) 1 cm Muck (A9) (LRR C) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) Redox Dark Surface (F6) 1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) ⁴Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) wetland hydrology must be present. Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** No (Yes (Remarks: A soil sample was not taken due to the presence of riprap on this slope making the ground impenetrable. **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (2 or more required) Primary Indicators (any one indicator is sufficient) Water Marks (B1) (Riverine) Surface Water (A1) Salt Crust (B11) Sediment Deposits (B2) (Riverine) High Water Table (A2) Biotic Crust (B12) Drift Deposits (B3) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drainage Patterns (B10) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Thin Muck Surface (C7) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Plowed Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Shallow Aquitard (D3)

Water-Stained Leaves (B9) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes (No (Depth (inches): Water Table Present? Yes (No (Depth (inches): Saturation Present? Depth (inches): Yes (No (Wetland Hydrology Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: US Army Corps of Engineers Arid West - Version 11-1-2006

Project/Site: Pure Water Program		City/County	San Diego)	Samp	oling Date:10	/26/20	16
Applicant/Owner:City of San Diego				State:CA	—— Samp	oling Point:19	b	
Investigator(s): Kathleen Dayton		Section, To	ownship, Rar	nge:21, 16S, 3W				
Landform (hillslope, terrace, etc.): Riverbottom		Local relie	f (concave, c	convex, none): None	;	Slop	e (%):()	
Subregion (LRR):C - Mediterranean California	Lat:32.7	62453		Long:-117.20005	6	Datum	n:NAD8	33
Soil Map Unit Name: Urban land				NWI cla	ssification:	Near Freshwater	Forested/	Shrub Wetl
Are climatic / hydrologic conditions on the site typical for this	time of ye	ar? Yes) No (
Are Vegetation Soil or Hydrology sig	gnificantly	disturbed?	Are "	Normal Circumstanc	es" presen	t? Yes 💿	No (0
Are Vegetation Soil or Hydrology na	turally pro	blematic?	(If ne	eded, explain any ar	nswers in R	emarks.)		
SUMMARY OF FINDINGS - Attach site map sl	howing	samplin	g point lo	cations, transe	cts, imp	ortant fea	tures,	etc.
Hydrophytic Vegetation Present? Yes (No								
		ls tl	ne Sampled	Area				
Wetland Hydrology Present? Yes No		with	nin a Wetlan	d? Yes	• N	10 O		
Remarks: Station located on the edge of the San Diego	River a	long Friar	s Road.					
VEGETATION								
	Absolute	Dominant		Dominance Test v	worksheet			
·	% Cover	Species?	Status	Number of Domina				
1.Salix gooddingii 2.Phoenix canariensis	$\frac{60}{10}$		FACW Not Listed	That Are OBL, FAC	JVV, or FAC	2: 2	((A)
3. Populus fremontii ssp. fremontii	5		Not Listed	Total Number of De Species Across All		4		В)
4.			Tiot Listed			4	(,D)
Total Cover:	75 %			Percent of Domina That Are OBL, FAC		50.0) % (A/B)
Sapling/Shrub Stratum	70 70) 70 (7(15)
1-Baccharis salicifolia ssp. salicifolia	20		FAC	Prevalence Index				
2-Baccharis sarothroides	2	No	FACU	Total % Cover	OT:	$\frac{\text{Multiply}}{\text{x 1} =}$	•	
3. 4.				OBL species FACW species	60	x 1 = x 2 =	0 120	
5.				FAC species	20	x 3 =	60	
Total Cover:	22 %			FACU species	20	x 4 =	8	
Herb Stratum	22 70			UPL species	19	x 5 =	95	
1-Ricinus communis	2	Yes	Not Listed	Column Totals:	101	(A)	283	(B)
2.				Prevalence Ir		_	2.90	
3. 4.				Hydrophytic Vege			2.80	
5.				Dominance Te				
6.				× Prevalence Inc				
7.				Morphological	Adaptation	ıs¹ (Provide s		ng
8.						a separate s	,	
Total Cover:	2 %			Problematic H	ydrophytic	Vegetation ¹ (Explain)	
Woody Vine Stratum		**		l lindington of the t	::	المنالة والمسالم		
1.Marah macrocarpa	2	Yes	Not Listed	¹ Indicators of hydr be present.	ic soil and	wetland hyd	rology n	iust
2	2			'				
Total Cover:	2 %			Hydrophytic Vegetation				
% Bare Ground in Herb Stratum15 % % Cover of	of Biotic C	rust	%	Present?	Yes	No 🔘		
Remarks:				L				

SOIL Sampling Point: 19b

	cription: (Describe	to the depth n			or or confir	m the absence of in	dicators.)
Depth (inches)	Matrix Color (maint)	0/		x Features	1 15-2	Tours 3	Domostra
(inches)	Color (moist)		Color (moist)	<u> % Тур</u>	e ¹ Loc ²	Texture ³	Remarks
0-16	7.5 Y/R 3/2	100				loam	
							·
							_
¹ Type: C=C	Concentration, D=Dep	letion, RM=Red	duced Matrix.	² Location: PL=F	ore Lining, F	RC=Root Channel, M	=Matrix.
	·				_		Silt Loam, Silt, Loamy Sand, Sand.
Hydric Soil	Indicators: (Applicabl	e to all LRRs, ι	ınless otherwise	noted.)		Indicators for Pr	oblematic Hydric Soils:
Histoso	l (A1)		Sandy Redo	x (S5)		1 cm Muck	(A9) (LRR C)
	pipedon (A2)		Stripped M	` '			(A10) (LRR B)
	listic (A3)			cky Mineral (F1)		Reduced Ve	
	en Sulfide (A4)	.,		yed Matrix (F2)			Material (TF2)
	ed Layers (A5) (LRR C	;)	Depleted M	atrix (F3) Surface (F6)		Other (Expl	ain in Remarks)
	luck (A9) (LRR D) ed Below Dark Surface	- (Δ11)		ark Surface (F6)			
I L	Park Surface (A12)	5 (711)		ressions (F8)			
	Mucky Mineral (S1)		Vernal Poo			⁴ Indicators of hy	drophytic vegetation and
1 📖	Gleyed Matrix (S4)			, ,			ology must be present.
Restrictive	Layer (if present):						
Type:							
Depth (ir	nches):		_			Hydric Soil Pres	ent? Yes No
Remarks: A	Although hydric soil	l indicators w	ere not met, s	ince this point	is within th	e San Diego River	, hydric soils are assumed.
				-			•
HYDROLO	OGY						
Wetland Hy	drology Indicators:					Secondary	Indicators (2 or more required)
Primary Ind	icators (any one indica	ator is sufficien	t)			Water	Marks (B1) (Riverine)
Surface	Water (A1)		Salt Crust	(B11)		X Sedim	ent Deposits (B2) (Riverine)
High W	ater Table (A2)		Biotic Cru	st (B12)		□ Drift D	eposits (B3) (Riverine)
Saturat	ion (A3)		Aquatic In	vertebrates (B13)	Draina	ge Patterns (B10)
Water I	Marks (B1) (Nonriveri	ne)	Hydrogen	Sulfide Odor (C	1)	Dry-Se	eason Water Table (C2)
Sedime	ent Deposits (B2) (Nor	nriverine)	Oxidized I	Rhizospheres alc	ng Living Ro	oots (C3) Thin M	luck Surface (C7)
Drift De	eposits (B3) (Nonriver	rine)	Presence	of Reduced Iron	(C4)	Crayfis	sh Burrows (C8)
	e Soil Cracks (B6)		Recent Iro	n Reduction in F	lowed Soils	(C6) Satura	tion Visible on Aerial Imagery (C9)
	tion Visible on Aerial I	magery (B7)	Other (Ex	plain in Remarks)		w Aquitard (D3)
Water-S	Stained Leaves (B9)					FAC-N	leutral Test (D5)
Field Obse	rvations:						
Surface Wa	ter Present? Y	es O No (Depth (in	ches):			
Water Table	e Present? Y	es O No (Depth (in	ches):			
Saturation F		es No (Depth (in	ches):			
	pillary fringe)					land Hydrology Pre	sent? Yes (•) No (
Describe Re	ecorded Data (stream	gauge, monito	ring well, aerial	pnotos, previous	inspections)	, if available:	
Remarks:							
US Army Corp	os of Engineers						



APPENDIX B Representative Photographs





Photo 1: Data Station 1a

Photo 2: Data Station 1b





Photo 3: Data Station 1c

Photo 4: Data Station 1d







Photo 6: Data Station 3a



Photo 7: Data Station 3b



Photo 8: Data Station 4a







Photo 10: Data Station 4c



Photo 11: Data Station 5a



Photo 12: Data Station 5b

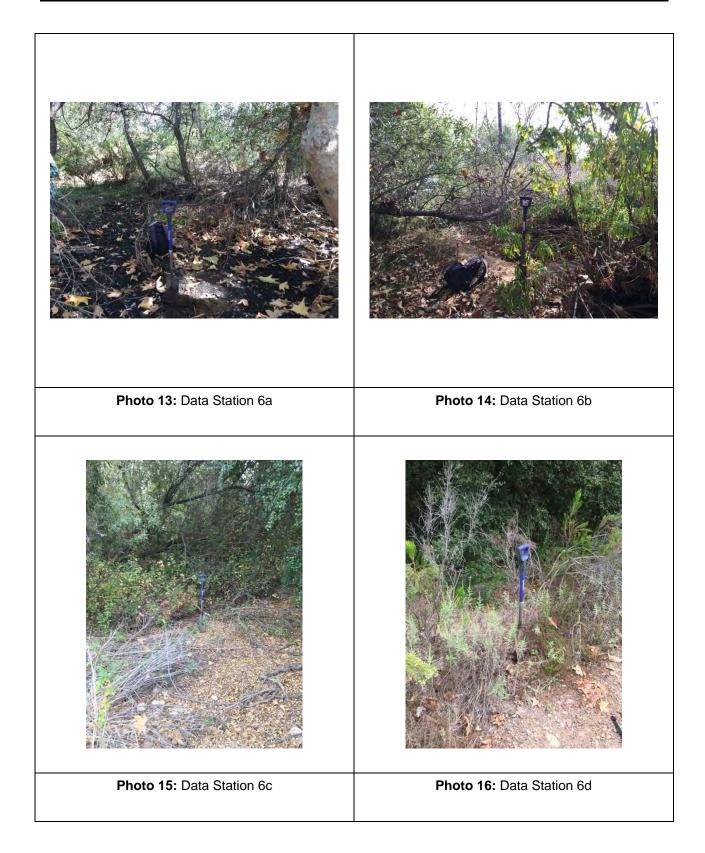








Photo 17: Data Station 7a

Photo 18: Data Station 7b



Photo 19: Data Station 8



Photo 20: Data Station 9a





Photo 21: Data Station 9b

Photo 22: Data Station 9c







Photo 24: Data Station 11





Photo 25: Data Station 12a

Photo 26: Data Station 12b







Photo 28: Data Station 13

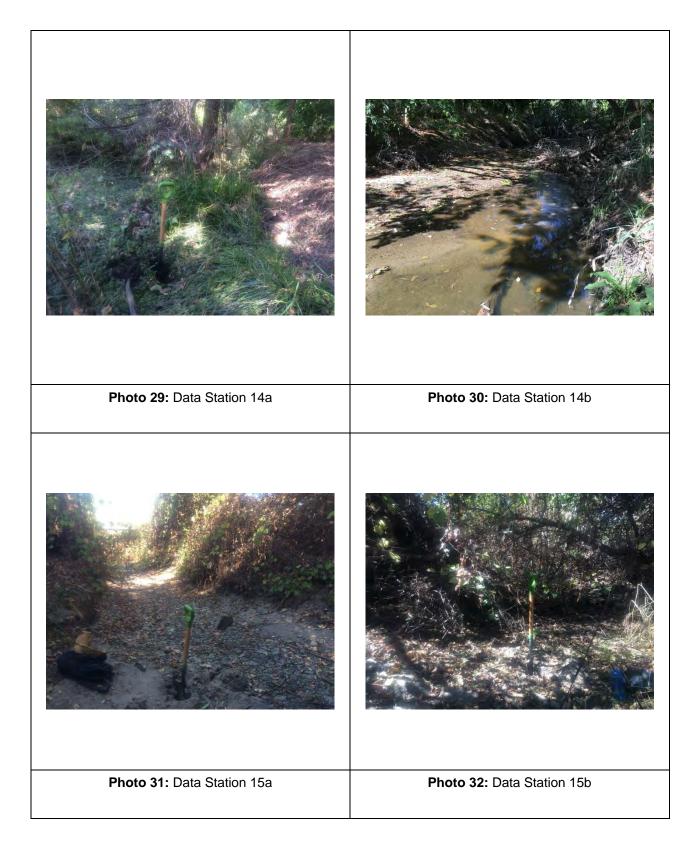








Photo 33: Data Station 16a

Photo 34: Data Station 16b





Photo 35: Data Station 17a

Photo 36: Data Station 17b





Photo 37: Data Station 17c

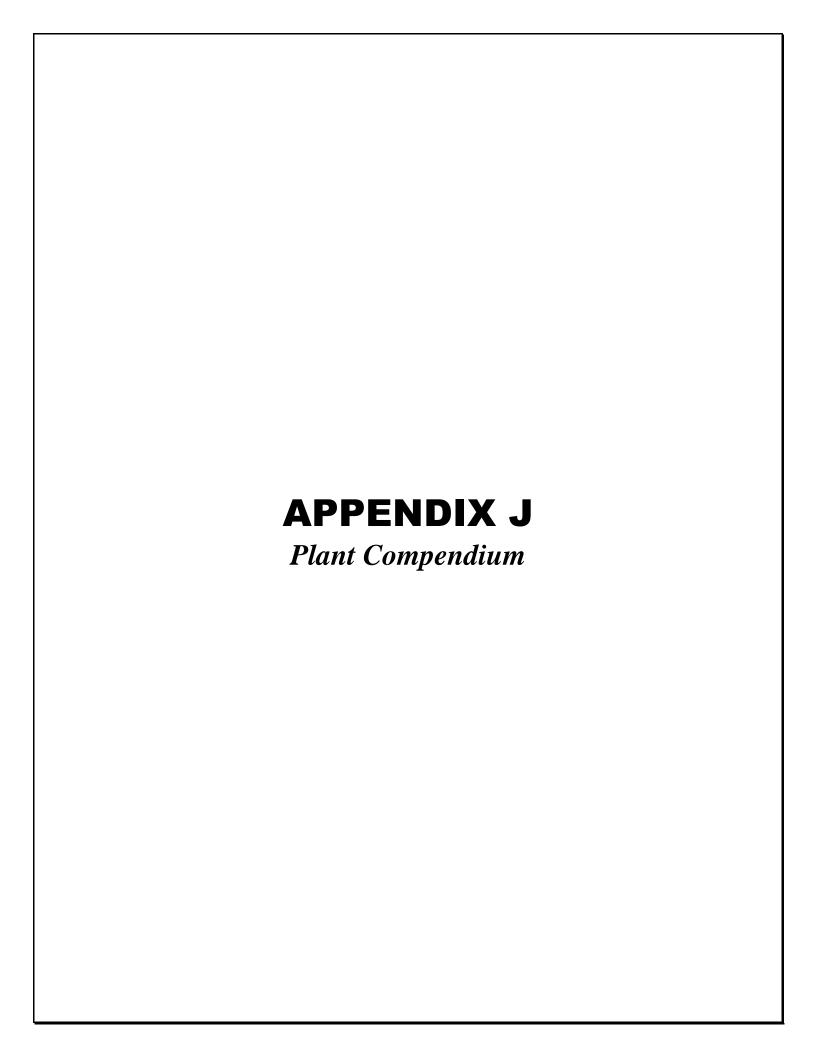
Photo 38: Data Station 18





Photo 39: Data Station 19a

Photo 40: Data Station 19b



APPENDIX J Plant Compendium

VASCULAR SPECIES

FERNS AND FERN ALLIES

AZOLLACEAE—MOSQUITO FERN FAMILY

Azolla filiculoides—Pacific mosquitofern

DRYOPTERIDACEAE—WOOD FERN FAMILY

Dryopteris arguta—coastal woodfern

PTERIDACEAE—BRAKE FAMILY

Aspidotis californica—California lacefern

Pellaea andromedifolia—coffee cliffbrake

Pellaea mucronata var. mucronata—birdfoot cliffbrake

Pentagramma triangularis ssp. triangularis—goldback fern

Pentagramma triangularis ssp. viscosa—silverback fern

Myriopteris newberryi—Newberry's lip fern

SELAGINELLACEAE—SPIKE-MOSS FAMILY

Selaginella bigelovii—bushy spikemoss Selaginella cinerascens—ashy spike-moss¹

GYMNOSPERMS AND GNETOPHYTES

PINACEAE—PINE FAMILY

Pinus torreyana ssp. torreyana—Torrey pine (planted)

MONOCOTS

AGAVACEAE—AGAVE FAMILY

Hesperoyucca whipplei—chaparral yucca

Yucca schidigera—Mojave yucca

Chlorogalum sp.—wavyleaf soap plant

ASTERACEAE—SUNFLOWER FAMILY

Pseudognaphalium leucocephalum

ALISMATACEAE—WATER-PLANTAIN FAMILY

Alisma triviale—northern water plantain

ALLIACEAE—ONION FAMILY

<u>Allium haematochiton—redskin onion</u> Allium peninsulare var. peninsulare—penisula onion Allium praecox—early onion

ARECACEAE—PALM FAMILY

- * Phoenix canariensis—Canary Island date palm
- * Washingtonia robusta—Washington fan palm

ASPARAGACEAE—ASPARAGUS FAMILY

* Asparagus asparagoides—African asparagus fern

ASPHODELACEAE—ASPHODEL FAMILY

* Asphodelus fistulosus—onionweed

CYPERACEAE—SEDGE FAMILY

Carex praegracilis—clustered field sedge

Carex spissa—San Diego sedge

Cyperus eragrostis—tall flatsedge

* Cyperus involucratus—umbrella plant

Eleocharis montevidensis—sand spikerush

Eleocharis palustris—common spikerush

Schoenoplectus californicus—California bulrush

Schoenoplectus acutus—hardstem bulrush

Eleocharis macrostachya—pale spike rush

IRIDACEAE—IRIS FAMILY

Sisyrinchium bellum—western blue-eyed grass

JUNCACEAE—RUSH FAMILY

Juncus bufonius—toad rush

Juncus dubius—questionable rush

Juncus mexicanus—Mexican rush

Juncus rugulosus—wrinkled rush

Juncus acutus ssp. leopoldii—southwestern spiny rush¹

LILIACEAE—LILY FAMILY

Calochortus splendens—splendid mariposa lily

Calochortus weedii var. weedii—Weed's mariposa lily

Brodiaea orcuttii—Orcutt's brodiaea

Fritillaria biflora var. biflora—no common name

POACEAE—GRASS FAMILY

- Agrostis pallens—seashore bentgrass
- * Agrostis stolonifera—creeping bentgrass
- * Avena barbata—slender oat
 - Aristida adscensionis—sixweeks threeawn
 - Bothriochloa barbinodis—cane bluestem
 - Deschampsia danthonioides—annual hairgrass
- * Ehrharta erecta—panic veldtgrass
 - Leptochloa fusca ssp. uninervia—Mexican sprangletop
 - Melica imperfecta—smallflower melicgrass
 - Muhlenbergia microsperma—littleseed muhly
 - Setaria parviflora—marsh bristlegrass
 - Stipa coronata—giant ricegrass
 - Stipa hymenoides—Indian rice grass
- * Arundo donax—giant reed
- * Avena fatua—wild oat
- * Brachypodium distachyon—purple false brome
- * Briza minor—little quakinggrass
- * Bromus catharticus—rescuegrass
- * Bromus diandrus—ripgut brome
- * Bromus hordeaceus—soft brome
- * Bromus madritensis ssp. rubens—red brome
- * Bromus tectorum—cheatgrass
- * Cortaderia jubata—purple pampas grass
- * Cortaderia selloana—Uruguayan pampas grass
- * Crypsis schoenoides—swamp pricklegrass
- * Cynodon dactylon—Bermudagrass
- * Dactylis glomerata—orchardgrass
- * Phalaris minor—littleseed canarygrass
- * Ehrharta longiflora—longflowered veldtgrass
- * Ehrharta calycina—perennial veldtgrass
- * Festuca myuros—rat-tail fescue
- * Gastridium phleoides—nit grass
- * Hordeum marinum—seaside barley
- * Hordeum marinum ssp. gussoneanum—Mediterranean barley
- * Hordeum murinum ssp. leporinum—hare barley
- * Lamarckia aurea—goldentop grass
- * Melinis repens—rose Natal grass
- * Parapholis incurva—curved sicklegrass



- * Paspalum dilatatum—dallisgrass
- * Paspalum vaginatum—seashore paspalum
- * Poa annua—annual bluegrass
- * Polypogon monspeliensis—annual rabbitsfoot grass
- * Polypogon viridis—beardless rabbitsfoot grass
- * Sorghum halepense—Johnsongrass
- * Stenotaphrum secundatum—St. Augustine grass
- * Stipa miliacea—smilograss
- * Schismus barbatus—common Mediterranean grass
 Elymus triticoides—creeping rye grass
 Stipa lepida—foothill needle grass
- * Pennisetum setaceum—fountain grass swards
- * Pennisetum clandestinum—kikuyugrass

Elymus condensatus—giant wild rye

Stipa cernua—nodding needle grass

* Festuca perennis—perennial rye grass
Stipa pulchra—purple needle grass
Distichlis spicata—salt grass

THEMIDACEAE—BRODIAEA FAMILY

Bloomeria crocea var. crocea—common goldenstar Dichelostemma capitatum ssp. capitatum—bluedicks Dichelostemma capitatum—bluedicks Muilla maritima—sea muilla

TYPHACEAE—CATTAIL FAMILY

Typha domingensis—southern cattail

EUDICOTS

ADOXACEAE—MUSKROOT FAMILY

Sambucus nigra ssp. caerulea—blue elderberry

AIZOACEAE—FIG-MARIGOLD FAMILY

- * Carpobrotus chilensis—sea fig
- * Carpobrotus edulis—ice plant
- * Mesembryanthemum nodiflorum—slenderleaf iceplant

AMARANTHACEAE—AMARANTH FAMILY

* Amaranthus albus—prostrate pigweed Amaranthus blitoides—mat amaranth



ANACARDIACEAE—SUMAC OR CASHEW FAMILY

Malosma laurina—laurel sumac

Rhus integrifolia—lemonade berry

Rhus ovata—sugarbush

- * Schinus molle—Peruvian peppertree
- * Schinus terebinthifolius—Brazilian peppertree
- * Searsia lancea—African sumac

Toxicodendron diversilobum—poison oak

APIACEAE—CARROT FAMILY

Apiastrum angustifolium—mock parsley

Daucus pusillus—American wild carrot

Sanicula arguta—sharptooth blacksnakeroot

Sanicula crassicaulis—Pacific blacksnakeroot

Tauschia arguta—southern umbrellawort

- * Apium graveolens—wild celery
- * Conium maculatum—poison hemlock
- * Torilis arvensis—spreading hedgeparsley
- * Foeniculum vulgare—fennel

APOCYNACEAE—DOGBANE FAMILY

Asclepias fascicularis—Mexican whorled milkweed

Funastrum cynanchoides var. hartwegii—Hartweg's twinevine

* Nerium oleander—oleander

ASTERACEAE—SUNFLOWER FAMILY

* Sonchus oleraceus—common sowthistle

Achillea millefolium—common yarrow

Acourtia microcephala—sacapellote

Agoseris grandiflora var. grandiflora—bigflower agoseris

Ambrosia confertiflora—weakleaf bur ragweed

Artemisia douglasiana—Douglas' sagewort

Artemisia ludoviciana ssp. albula—white sagebrush

Baccharis pilularis ssp. consanguinea—coyotebrush

Baccharis sarothroides—desertbroom

Brickellia californica—California brickellbush

Brickellia desertorum—desert brickellbush

Chaenactis artemisiifolia—white pincushion

Chaenactis glabriuscula—yellow pincushion

Cirsium occidentale var. californicum—cobwebby thistle

Cirsium occidentale var. occidentale—cobwebby thistle

Corethrogyne filaginifolia—common sandaster

Deinandra fasciculata—clustered tarweed

Erigeron canadensis—Canadian horseweed

Erigeron foliosus—leafy fleabane

Eriophyllum confertiflorum—golden-yarrow

Euthamia occidentalis—western goldentop

Gnaphalium palustre—western marsh cudweed

Hazardia squarrosa var. grindelioides—sawtooth bristleweed

Helianthus gracilentus—slender sunflower

Heterotheca grandiflora—telegraphweed

Isocoma menziesii var. menziesii—Menzies' goldenbush

Jaumea carnosa—marsh jaumea

Laennecia coulteri—Coulter's horseweed

Lasthenia coronaria—royal goldfields

Lasthenia gracilis—needle goldfields

Leptosyne gigantea—giant coreopsis

Logfia filaginoides—California cottonrose

Osmadenia tenella—false rosinweed

Pluchea sericea—arrow weed

Pluchea odorata var. odorata—sweetscent

Porophyllum gracile—slender poreleaf

Pseudognaphalium beneolens—Wright's cudweed

Pseudognaphalium biolettii—two-color rabbit-tobacco

Pseudognaphalium californicum—ladies' tobacco

Pseudognaphalium canescens—Wright's cudweed

Pseudognaphalium microcephalum—Wright's cudweed

Pseudognaphalium stramineum—cottonbatting plant

Psilocarphus brevissimus—short woollyheads

Psilocarphus tenellus—slender woollyheads

Rafinesquia californica—California plumeseed

Stephanomeria diegensis—San Diego wirelettuce

Stephanomeria exigua ssp. deanei—Deane's wirelettuce

Stylocline gnaphaloides—mountain neststraw

Uropappus lindleyi—Lindley's silverpuffs

Baccharis salicifolia ssp. salicifolia—mulefat

- * Bidens pilosa—hairy beggarticks
- * Carduus pycnocephalus—Italian plumeless thistle
- * Centaurea benedicta—blessed thistle



- * Centaurea melitensis—Maltese star-thistle
- * Cirsium vulgare—bull thistle
- * Cynara cardunculus ssp. cardunculus—globe artichoke
- * Dimorphotheca sinuata—glandular Cape marigold
- * Dittrichia graveolens—stinkwort
- * Erigeron bonariensis—asthmaweed
- * Erigeron sumatrensis—asthmaweed
- * Gazania linearis—treasureflower
- * Glebionis coronaria—crowndaisy
- * *Hedypnois rhagadioloides*—crete weed
- * Helichrysum petiolare—licorice-plant
- * Helminthotheca echioides—bristly oxtongue
- * Hypochaeris glabra—smooth cat's ear
- * Lactuca serriola—prickly lettuce
- * Logfia gallica—narrowleaf cottonrose
- * Matricaria discoidea—disc mayweed
- * Oncosiphon piluliferum—stinknet
- * Pseudognaphalium luteoalbum—Jersey cudweed
- * Senecio vulgaris—old-man-in-the-Spring
- * Sonchus asper—spiny sowthistle
- * Sonchus asper ssp. asper—spiny sowthistle
- * Tragopogon dubius—yellow salsify
- * Cotula coronopifolia—brass buttons

Encelia farinosa—brittle bush

Encelia californica—California brittle bush

Gutierrezia californica—California match weed

Artemisia californica—California sagebrush

Ambrosia psilostachya—western ragweed

Artemisia dracunculus—wild tarragon

Artemisia palmeri—San Diego sagewort¹

Viguiera laciniata—San Diego County viguiera¹

Holocarpha virgata ssp. elongata—graceful tarplant¹

Isocoma menziesii var. decumbens—decumbent goldenbush¹

Iva hayesiana—San Diego marsh-elder¹

Microseris douglasii ssp. platycarpha—small-flowered microseris¹

Pentachaeta aurea ssp. aurea—golden-rayed pentachaeta¹

Pseudognaphalium leucocephalum—white rabbit-tobacco^{1,2}

BIGNONIACEAE—BIGNONIA FAMILY

Tecoma capensis—Cape honeysuckle

BORAGINACEAE—BORAGE FAMILY

Amsinckia intermedia—common fiddleneck

Amsinckia menziesii—Menzies' fiddleneck

Amsinckia retrorsa—Menzies' fiddleneck

Cryptantha intermedia var. intermedia—Clearwater cryptantha

Cryptantha micrantha—redroot cryptantha

Cryptantha micromeres—pygmyflower cryptantha

Cryptantha microstachys—Tejon cryptantha

Cryptantha muricata var. denticulata—pointed cryptantha

Eriodictyon crassifolium var. crassifolium—thickleaf yerba santa

Eucrypta chrysanthemifolia var. chrysanthemifolia—spotted hideseed

Heliotropium curassavicum var. oculatum—seaside heliotrope

Nemophila menziesii var. integrifolia—baby blue eyes

Pectocarya linearis ssp. ferocula—sagebrush combseed

Pectocarya penicillata—sleeping combseed

Phacelia cicutaria var. hispida—caterpillar phacelia

Phacelia distans—distant phacelia

Phacelia parryi—Parry's phacelia

Phacelia ramosissima—branching phacelia

Pholistoma auritum var. auritum—blue fiestaflower

Pholistoma membranaceum—white fiestaflower

Plagiobothrys arizonicus—Arizona popcornflower

* Echium candicans—pride of Madeira

BRASSICACEAE—MUSTARD FAMILY

* Sisymbrium irio—London rocket

Caulanthus heterophyllus—San Diego wild cabbage

Lepidium lasiocarpum ssp. lasiocarpum—shaggyfruit pepperweed

Lepidium nitidum—shining pepperweed

Nasturtium officinale—watercress

Thysanocarpus laciniatus—mountain fringepod

- * Brassica nigra—black mustard
- * Brassica tournefortii—Asian mustard
- * Eruca vesicaria ssp. sativa—rocketsalad
- * Hirschfeldia incana—shortpod mustard
- * Lepidium didymum—lesser swinecress



- * Raphanus raphanistrum—wild radish
- * Raphanus sativus—cultivated radish
- * Sisymbrium officinale—hedgemustard
- * Sisymbrium orientale—Indian hedgemustard
- * Lepidium latifolium—perennial pepper weed

Lepidium nitidum—shining pepperweed

Lepidium virginicum var. robinsonii—Robinson's pepper-grass^{1,2}

CACTACEAE—CACTUS FAMILY

Opuntia ×vaseyi—Vasey's coastal pricklypear

* Opuntia ficus-indica—Barbary fig

Cylindropuntia californica var. californica—snake cholla

Opuntia littoralis—coast prickly pear

Ferocactus viridescens—San Diego barrel cactus^{1,2}

<u>CAMPANULACEAE—BELLFLOWER FAMILY</u>

Downingia cuspidata—toothed calicoflower

CAPRIFOLIACEAE—HONEYSUCKLE FAMILY

Lonicera subspicata var. denudata—Santa Barbara honeysuckle

* Lonicera japonica—Japanese honeysuckle

Symphoricarpos mollis—creeping snowberry

CARYOPHYLLACEAE—PINK FAMILY

Achyronychia cooperi—onyxflower

Cardionema ramosissimum—sandcarpet

Polycarpon depressum—California manyseed

Silene laciniata ssp. laciniata—cardinal catchfly

Stellaria nitens—shiny chickweed

- * Cerastium glomeratum—sticky chickweed
- * Polycarpon tetraphyllum var. tetraphyllum—fourleaf manyseed
- * Silene gallica—common catchfly
- * Spergularia villosa—hairy sandspurry
- * Stellaria media—common chickweed

CHENOPODIACEAE—GOOSEFOOT FAMILY

Atriplex canescens—fourwing saltbush

Chenopodium californicum—California goosefoot

- * Atriplex semibaccata—Australian saltbush
- * Atriplex suberecta—peregrine saltbush



- * Chenopodium album—lambsquarters
- * Chenopodium murale—nettleleaf goosefoot
- * Salsola tragus—prickly Russian thistle
- * Atriplex prostrata—fat hen

Atriplex lentiformis—quailbush

Arthrocnemum subterminale—Parish's glasswort

Salicornia pacifica—pickleweed

CISTACEAE—ROCK-ROSE FAMILY

Crocanthemum aldersonii—no common name

Crocanthemum scoparium var. scoparium—peak rush-rose

Crocanthemum scoparium var. vulgare—no common name

* Cistus incanus—hairy rockrose

CLEOMACEAE—CLEOME FAMILY

Peritoma arborea var. arborea—bladderpod spiderflower

CONVOLVULACEAE—MORNING-GLORY FAMILY

Calystegia macrostegia ssp. intermedia—island false bindweed

Calystegia macrostegia ssp. tenuifolia—island false bindweed

Cuscuta californica—chaparral dodder

Cuscuta subinclusa—canyon dodder

Dichondra occidentalis—western dichondra¹

CRASSULACEAE—STONECROP FAMILY

* Crassula ovata—jade plant

Crassula aquatica—water pygmyweed

Crassula connata—sand pygmyweed

Dudleya edulis—fingertips

Dudleya lanceolata—lanceleaf liveforever

Dudleya pulverulenta—chalk dudleya

CUCURBITACEAE—GOURD FAMILY

Cucurbita foetidissima—Missouri gourd

Marah macrocarpa—Cucamonga manroot

DIPSACACEAE—TEASEL FAMILY

* Dipsacus sativus—Indian teasel

ELATINACEAE—WATERWORT FAMILY

Elatine brachysperma—shortseed waterwort



ERICACEAE—HEATH FAMILY

Arctostaphylos glauca—bigberry manzanita

Xylococcus bicolor—mission manzanita

Comarostaphylis diversifolia ssp. diversifolia summer holly

EUPHORBIACEAE—SPURGE FAMILY

Acalypha californica—California copperleaf

Croton californicus—California croton

Euphorbia crenulata—Chinese caps

Euphorbia albomarginata—whitemargin sandmat

Euphorbia polycarpa—smallseed sandmat

Euphorbia serpyllifolia ssp. hirtula—thymeleaf sandmat

Croton setiger—dove weed

- * Euphorbia maculata—spotted sandmat
- * Euphorbia peplus—petty spurge
- * Ricinus communis—castorbean

FABACEAE—LEGUME FAMILY

Acmispon americanus var. americanus—American bird's-foot trefoil

Acmispon glaber var. glaber—common deerweed

Acmispon heermannii—Heermann's bird's-foot trefoil

Acmispon micranthus—San Diego bird's-foot trefoil

Acmispon strigosus—strigose bird's-foot trefoil

Astragalus trichopodus var. lonchus—Santa Barbara milkvetch

Lathyrus vestitus var. alefeldii—Alefeld's pea

Lupinus benthamii—spider lupine

Lupinus bicolor—miniature lupine

Lupinus concinnus—bajada lupine

Lupinus hirsutissimus—stinging annual lupine

Lupinus sparsiflorus—Coulter's lupine

Lupinus succulentus—hollowleaf annual lupine

Trifolium willdenovii—tomcat clover

Vicia ludoviciana—Louisiana vetch

- * Acacia cyclops—coastal wattle
- * Acacia longifolia—Sydney golden wattle
- * Acacia retinodes—water wattle
- * Lotus corniculatus—bird's-foot trefoil
- * *Medicago polymorpha*—burclover
- * Melilotus albus—yellow sweetclover
- * *Melilotus indicus*—annual yellow sweetclover



- * *Melilotus officinalis*—sweetclover
- * Parkinsonia aculeata—Jerusalem thorn
- * Spartium junceum—Spanish broom
- * Trifolium hirtum—rose clover
- * Vicia villosa ssp. villosa—winter vetch Acmispon americanus—Spanish clover

FAGACEAE—OAK FAMILY

Quercus acutidens—hybrid oak

Quercus agrifolia var. agrifolia—California live oak

Quercus berberidifolia—scrub oak

Quercus engelmannii—Engelmann oak (planted)

Quercus dumosa—Nuttall's scrub oak¹

FRANKENIA CEAE—FRANKENIA FAMILY

Frankenia salina—alkali heath

GENTIANACEAE—GENTIAN FAMILY

Zeltnera venusta—charming centaury

GERANIACEAE—GERANIUM FAMILY

- * Erodium cicutarium—redstem stork's bill Geranium carolinianum—Carolina geranium
- * Erodium botrys—longbeak stork's bill
- * Erodium moschatum—musky stork's bill
- * Geranium dissectum—cutleaf geranium
- * Geranium rotundifolium—roundleaf geranium
- * Pelargonium vitifolium—grapeleaf geranium

GROSSULARIACEAE—GOOSEBERRY FAMILY

Ribes indecorum—whiteflower currant Ribes speciosum—fuchsiaflower gooseberry

JUGLANDACEAE—WALNUT FAMILY

Juglans californica—Southern California black walnut^{1,2}

LAMIACEAE—MINT FAMILY

Salvia apiana—white sage Salvia columbariae—chia Salvia mellifera—black sage Salvia leucophylla—purple sage

Stachys rigida var. quercetorum—rough hedgenettle

Stachys rigida var. rigida—rough hedgenettle

- * Lamium amplexicaule—henbit deadnettle
- * Marrubium vulgare—horehound

LYTHRACEAE—LOOSESTRIFE FAMILY

- * Lythrum hyssopifolia—hyssop loosestrife
- * Punica granatum—pomegranate

MALVACEAE—MALLOW FAMILY

Malacothamnus densiflorus—yellowstem bushmallow

Sidalcea sparsifolia—dwarf checkerbloom

- * Malva parviflora—cheeseweed mallow
- * Malva pseudolavatera—Cornish mallow

Malacothamnus fasciculatus—bush mallow

MELIACEAE—MAHOGANY FAMILY

* *Melia azedarach*—Chinaberrytree

MOLLUGINACEAE—CARPET-WEED FAMILY

* Glinus lotoides—lotus sweetjuice

MONTIACEAE—MONTIA FAMILY

Claytonia parviflora ssp. parviflora—streambank springbeauty

Claytonia perfoliata ssp. mexicana—miner's lettuce

Claytonia perfoliata—miner's lettuce

Calandrinia menziesii—red maids

MYRSINACEAE—MYRSINE FAMILY

* Lysimachia monelli—flaxleaf pimpernel

Lysimachia minima—chaffweed

* Lysimachia arvensis—scarlet pimpernel

MYRTACEAE—MYRTLE FAMILY

- * Eucalyptus camaldulensis—river redgum
- * Eucalyptus globulus—Tasmanian bluegum
- * Eucalyptus polyanthemos—redbox
- * Eucalyptus sideroxylon—red ironbark
- * Melaleuca citrina—crimson bottlebrush
- * Leptospermum laevigatum—Australian teatree



NYCTAGINACEAE—FOUR O'CLOCK FAMILY

Mirabilis laevis var. crassifolia—California four o'clock Mirabilis laevis var. retrorsa—wishbone-bush

OLEACEAE—OLIVE FAMILY

* Olea europaea—olive

ONAGRACEAE—EVENING PRIMROSE FAMILY

Camissonia strigulosa—sandysoil suncup

Camissoniopsis bistorta—southern suncup

Camissoniopsis confusa—San Bernardino suncup

Camissoniopsis hirtella—Santa Cruz Island suncup

Camissoniopsis ignota—Jurupa Hills suncup

Clarkia epilobioides—canyon clarkia

Clarkia purpurea ssp. quadrivulnera—winecup clarkia

Clarkia purpurea ssp. viminea—winecup clarkia

Epilobium canum—hummingbird trumpet

Epilobium ciliatum—fringed willowherb

Eulobus californicus—California suncup

Oenothera elata—Hooker's evening primrose

Clarkia delicata—delicate clarkia^{1,2}

OROBANCHACEAE—BROOM-RAPE FAMILY

Castilleja affinis—coast Indian paintbrush

Castilleja exserta ssp. exserta—exserted Indian paintbrush

Castilleja foliolosa—Texas Indian paintbrush

Cordylanthus rigidus ssp. setiger—no common name

OXALIDACEAE—OXALIS FAMILY

Oxalis californica—California woodsorrel

* Oxalis pes-caprae—Bermuda buttercup

PAPAVERACEAE—POPPY FAMILY

Eschscholzia californica—California poppy

Romneya coulteri—Coulter's matilija poppy¹ (planted)

PHRYMACEAE—LOPSEED FAMILY

Mimulus aurantiacus var. puniceus—orange bush monkeyflower

Mimulus brevipes—widethroat yellow monkeyflower

Mimulus guttatus—common monkey flower



PLANTAGINACEAE—PLANTAIN FAMILY

Antirrhinum nuttallianum ssp. nuttallianum—violet snapdragon

Antirrhinum nuttallianum ssp. subsessile—lesser snapdragon

Keckiella cordifolia—heartleaf keckiella

Plantago elongata—prairie plantain

Plantago ovata—desert Indianwheat

Nuttallanthus texanus—Texas toadflax

- * Plantago arenaria—sand plantain
- * Plantago coronopus—buckhorn plantain
- * Plantago lanceolata—narrowleaf plantain
- * Plantago major—common plantain
- * Veronica anagallis-aquatica—water speedwell

Plantago erecta—dwarf plantain

PLATANACEAE—PLANE TREE, SYCAMORE FAMILY

Platanus racemosa—California sycamores

PLUMBAGINACEAE—LEADWORT FAMILY

* Limonium sinuatum—wavyleaf sea lavender

POLEMONIA CEAE—PHLOX FAMILY

Eriastrum filifolium—lavender woollystar

Gilia angelensis—chaparral gilia

Linanthus dianthiflorus—fringed linanthus

Navarretia hamata ssp. hamata—hooked pincushionplant

POLYGONACEAE—BUCKWHEAT FAMILY

Chorizanthe fimbriata var. fimbriata—fringed spineflower

Chorizanthe fimbriata var. laciniata—fringed spineflower

Chorizanthe procumbens—prostrate spineflower

Chorizanthe staticoides—turkish rugging

Eriogonum fasciculatum var. foliolosum—Eastern Mojave buckwheat

Eriogonum gracile—slender woolly buckwheat

Lastarriaea coriacea—leather spineflower

Persicaria amphibia—longroot smartweed

Pterostegia drymarioides—woodland pterostegia

- * Polygonum argyrocoleon—silversheath knotweed
- * Polygonum aviculare ssp. depressum—prostrate knotweed
- * Rumex crispus—curly dock

Chorizanthe polygonoides var. longispina—long-spined spineflower¹



PORTULACACEAE—PURSLANE FAMILY

* Portulaca oleracea—little hogweed

PRIMULACEAE—PRIMROSE FAMILY

Primula clevelandii var. clevelandii—Padre's shooting star

PROTEACEAE—PROTEA FAMILY

* Grevillea robusta—silkoak

RANUNCULACEAE—BUTTERCUP FAMILY

Clematis lasiantha—pipestem clematis

Clematis ligusticifolia—western white clematis

Clematis pauciflora—ropevine clematis

Delphinium parryi ssp. parryi—San Bernardino larkspur

Thalictrum fendleri var. fendleri—Fendler's meadow-rue

RHAMNACEAE—BUCKTHORN FAMILY

Adolphia californica—California adolphia 1

Ceanothus tomentosus—woolyleaf ceanothus

Ceanothus verrucosus—wart-stemmed ceanothus¹

Rhamnus crocea—redberry buckthorn

Rhamnus ilicifolia—hollyleaf redberry

Ceanothus leucodermis—chaparral white thorn

Ceanothus oliganthus—hairy leaf ceanothus

Ceanothus crassifolius—hoary leaf ceanothus

Ceanothus verrucosus—wart-stemmed ceanothus¹

ROSACEAE—ROSE FAMILY

Adenostoma fasciculatum var. fasciculatum—chamise

Adenostoma fasciculatum var. obtusifolium—chamise

Cercocarpus betuloides var. betuloides—birchleaf mountain mahogany

Cercocarpus minutiflorus—smooth mountain mahogany

Heteromeles arbutifolia—toyon

Prunus ilicifolia ssp. ilicifolia—hollyleaf cherry

Rubus ursinus—California blackberry

* Rubus armeniacus—Himalayan black berry

RUBIACEAE—MADDER FAMILY

Galium angustifolium ssp. angustifolium—narrowleaf bedstraw

Galium aparine—stickywilly

Galium nuttallii—climbing bedstraw



RUTACEAE—RUE FAMILY

Cneoridium dumosum—bush rue

SALICACEAE—WILLOW FAMILY

Populus fremontii ssp. fremontii—Fremont cottonwood

Salix exigua var. hindsiana—narrowleaf willow

Salix laevigata—red willow

Salix lasiolepis—arroyo willow

Salix tracyi—Tracy's willow

Salix gooddingii—black willow

SAPINDACEAE—SOAPBERRY FAMILY

Acer negundo—box-elder

SAURURACEAE—LIZARD'S-TAIL FAMILY

Anemopsis californica—yerba mansa

SCROPHULARIACEAE—FIGWORT FAMILY

Scrophularia californica—California figwort

* Myoporum laetum—myoporum

SIMAROUBACEAE—OUASSIA OR SIMAROUBA FAMILY

* Ailanthus altissima—tree of heaven

SOLANACEAE—NIGHTSHADE FAMILY

Datura wrightii—sacred thorn-apple

Physalis hederifolia var. fendleri—Fendler's groundcherry

Solanum douglasii—greenspot nightshade

Solanum parishii—Parish's nightshade

Solanum umbelliferum—bluewitch nightshade

Solanum xanti—chaparral nightshade

- * Nicotiana gauca—tree tobacco
- * Physalis philadelphica—Mexican groundcherry
- * Solanum nigrum—black nightshade

TAMARICACEAE—TAMARISK FAMILY

* Tamarix ramosissima—saltcedar

TROPAEOLACEAE—NASTURTIUM FAMILY

* Tropaeolum majus—nasturtium



URTICACEAE—NETTLE FAMILY

<u>Hesperocnide tenella—western stingingnettle</u> Parietaria hespera var. californica—California pellitory Urtica dioica ssp. gracilis—California nettle

* Urtica urens—dwarf nettle

VERBENACEAE—VERVAIN FAMILY

Verbena menthifolia—mint vervain

* Lantana camara—lantana

VIOLACEAE—VIOLET FAMILY

Viola pedunculata—Johnny-jump-up

VITACEAE—GRAPE FAMILY

Vitis girdiana—desert wild grape

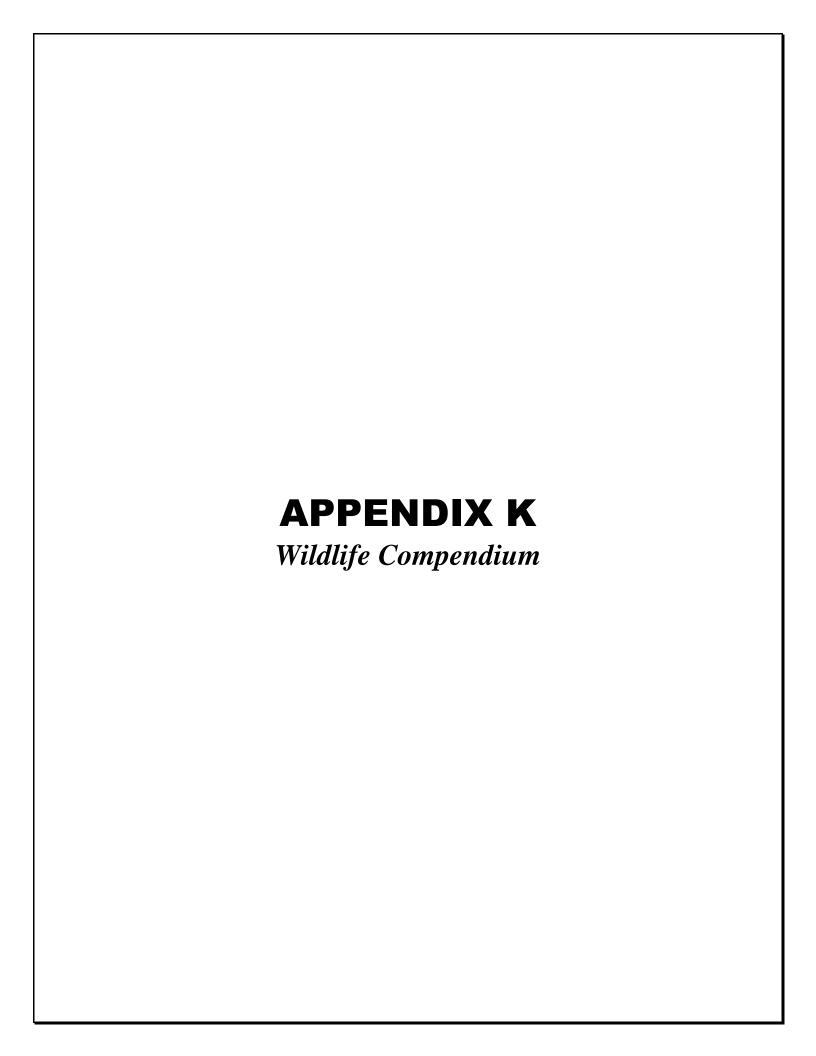
ZYGOPHYLLACEAE—CALTROP FAMILY

* Tribulus terrestris—puncturevine

- Special-Status Species
- ² Occurs in San Vicente Reservoir Alternative Only



^{*} signifies introduced (non-native) species



APPENDIX K Wildlife Compendium

Scientific Name	Common Name	San Vicente Reservoir Alternative ¹	Miramar Reservoir Alternative ²	Both Alternatives ³
	A	MPHIBIAN		•
	RANIDAE—1	TONGUELESS FROGS		
Lithobates catesbeianus	American bullfrog	Х	_	_
		BIRD		
	ICTERID	AE—BLACKBIRDS		
Agelaius phoeniceus	red-winged blackbird	Х	_	Х
Euphagus cyanocephalus	Brewer's blackbird	Х	_	Х
Icterus bullockii	Bullock's oriole	Х	-	_
Icterus cucullatus	hooded oriole	Х	Χ	Х
Molothrus ater	brown-headed cowbird	Х	_	-
Quiscalus mexicanus	great-tailed grackle	_	Χ	Х
		IG-TAILED TITS AND BUSH	TITS	•
Psaltriparus minimus	bushtit	Х	Χ	Х
,	CARDINALIDAE-	-CARDINALS AND ALLIES		1
Passerina amoena	Lazuli bunting	Х	_	_
Passerina caerulea	blue grosbeak	Х	_	Х
Pheucticus melanocephalus	black-headed grosbeak	Х	Х	X
Piranga ludoviciana	western tanager	Х	_	_
	•	CKS, GEESE, AND SWANS		1
Anas platyrhynchos	mallard	X	_	Х
Anas strepera	gadwall	_	_	Х
Branta hutchinsii	Cackling goose	_	_	Х
Cairina moschata	Muscovy Duck	_	_	Х
	Goose sp.	_	_	Х
Lophodytes cucullatus	hooded merganser	_	_	Х
		DAE—EMBERIZIDS		
Aimophila ruficeps	rufous-crowned sparrow	Х	_	_
Aimophila ruficeps canescens	Southern California rufous- crowned sparrow	Х	-	-
Chondestes grammacus	lark sparrow	_	_	Х
Junco hyemalis	dark-eyed junco	Х	_	_
Melospiza lincolnii	Lincoln's sparrow	Х	_	_
Melospiza melodia	song sparrow	X	Х	Х
Melozone crissalis	California towhee	Х	Х	Х
Pipilo maculatus	spotted towhee	Х	Х	Х
Spizella atrogularis	black-chinned sparrow	-	-	Х
Spizella breweri	Brewer's sparrow	_	Х	_
Zonotrichia leucophrys	white-crowned sparrow	X	_	Х
r ,-	<u> </u>	ARACARAS AND FALCONS		
Falco sparverius	American kestrel	X	_	Х
	1			1



Scientific Name	Common Name	San Vicente Reservoir Alternative ¹	Miramar Reservoir Alternative ²	Both Alternatives ³
FF	RINGILLIDAE—FRINGILLINE A	ND CARDUELINE FINCHES	S AND ALLIES	
Haemorhous mexicanus	house finch	X	Χ	X
Spinus psaltria	lesser goldfinch	X	Χ	X
Spinus tristis	American goldfinch	-	-	X
	TYRANNIDAE—	TYRANT FLYCATCHERS		
Contopus sordidulus	western wood-pewee	X	_	X
Empidonax difficilis	Pacific-slope flycatcher	X	X	Х
Empidonax traillii	willow flycatcher	X	-	_
Myiarchus cinerascens	ash-throated flycatcher	X	X	X
Sayornis nigricans	black phoebe	X	X	X
Sayornis saya	Say's phoebe	X	X	X
Tyrannus verticalis	western kingbird	X	_	Х
Tyrannus vociferans	Cassin's kingbird	X	_	X
	CAPRIMULGI	DAE—GOATSUCKERS		
Chordeiles acutipennis	lesser nighthawk	-	-	Х
	PODICIPE	EDIDAE—GREBES		
Aechmophorus clarkii	Clark's grebe	X	_	_
Aechmophorus occidentalis	western grebe	X	_	_
Podiceps nigricollis	eared grebe	Х	_	_
Podilymbus podiceps	pied-billed grebe	-	_	X
	ACCIPITRIDAE—HAWK	S, KITES, EAGLES, AND A	LLIES	
Accipiter cooperii	Cooper's hawk	X	X	X
Buteo jamaicensis	red-tailed hawk	X	X	Х
Buteo lineatus	red-shouldered hawk	X	_	X
Elanus leucurus	white-tailed kite	-	-	X
Pandion haliaetus	osprey	X	_	_
	ARDEIDAE—HERO	NS, BITTERNS, AND ALLIE	S	
Ardea alba	great egret	X	_	X
Ardea herodias	great blue heron	X	-	X
Butorides virescens	green heron	X	_	Х
Egretta thula	snowy egret	-	_	Х
Nycticorax nycticorax	black-crowned night-heron	_	_	Х
	TROCHILIDA	E—HUMMINGBIRDS		
Calypte anna	Anna's hummingbird	Х	Х	Х
Calypte costae	Costa's hummingbird	X	Х	Х
	CORVIDAE-	-CROWS AND JAYS		
Aphelocoma californica	western scrub-jay	Х	Х	Х
Corvus brachyrhynchos	American crow	X	Х	Х
Corvus corax	common raven	X	Х	Х
	REGULI	DAE—KINGLETS		
Regulus calendula	ruby-crowned kinglet	_	_	Х



Scientific Name	Common Name	San Vicente Reservoir Alternative ¹	Miramar Reservoir Alternative ²	Both Alternatives ³
	MIMIDAE—MOCKIN	NGBIRDS AND THRASHER	S	
Mimus polyglottos	northern mockingbird	X	X	X
Toxostoma redivivum	California thrasher	X	X	X
	ODONTOPHORIE	AE—NEW WORLD QUAIL		
Callipepla californica	California quail	X	X	X
	CATHARTIDAE—	-CARDINALS AND ALLIES		
Cathartes aura	turkey vulture	X	X	X
	PASSERIDAE—(OLD WORLD SPARROWS		
Passer domesticus	house sparrow	X	X	Х
	SYLVIIDAE—	-SYLVIID WARBLERS		
Polioptila caerulea	blue-gray gnatcatcher	X	X	Х
Polioptila californica	coastal California	Х	Х	Х
californica	gnatcatcher			
	TYTONID	AE—BARN OWLS		
Tyto alba	barn owl	X	_	_
	PSITTAC	IDAE—PARROTS		
Amazona viridigenalis	Red-crowned parrot	-	-	X
	COLUMBIDAE-	-PIGEONS AND DOVES		
Columba livia	rock pigeon (rock dove)	Х	Х	Х
Streptopelia decaocto	Eurasian collared-dove	_	_	Х
Zenaida macroura	mourning dove	X	Х	Х
	RALLIDAE—RAILS,	GALLINULES, AND COOT	S	
Fulica americana	American coot	Х	Х	Х
	CUCULIDAE—CUCKO	OS, ROADRUNNERS, AND	ANIS	
Geococcyx californianus	greater roadrunner	Х	Х	-
	CHARADRIIDAE—	LAPWINGS AND PLOVERS	3	
Charadrius vociferus	killdeer	Х	_	Х
	PTILOGONATIDA	E—SILKY-FLYCATCHERS		
Phainopepla nitens	phainopepla	Х	Х	Х
	STURNIE	DAE—STARLINGS	1	-
Sturnus vulgaris	European starling	Х	Х	Х
•	· · · · · · · · · · · · · · · · · · ·	IDAE—SWALLOWS		•
Hirundo rustica	barn swallow	Х	_	Х
Petrochelidon pyrrhonota	cliff swallow	Х	Х	Х
Stelgidopteryx serripennis	northern rough-winged swallow	X	_	Х
		IDAE—SWIFTS		
Aeronautes saxatalis	white-throated swift	X	Х	Х
		S, TERNS, AND SKIMMERS		
Larus occidentalis	western gull	X	_	Х
Sterna hirundo	common tern	X	_	_
		1 * * * * * * * * * * * * * * * * * * *		1



Scientific Name	Common Name	San Vicente Reservoir Alternative ¹	Miramar Reservoir Alternative ²	Both Alternatives ³
	TURDID	AE—THRUSHES		
Catharus guttatus	hermit thrush	Х	_	_
Sialia mexicana	western bluebird	Х	_	_
Turdus migratorius	American robin	Х	_	_
	VIREO	VIDAE—VIREOS		
Vireo bellii pusillus	least Bell's vireo	Х	_	_
Vireo gilvus	warbling vireo	Х	_	Х
Vireo huttoni	Hutton's vireo	Х	_	-
	ESTRILDIDAE—WAX	XBILLS, MUNIAS AND ALLI	ES	
Lonchura atricapilla	Chesnut munia	Х	_	_
Lonchura punctulata	scaly-breasted munia	Х	_	Х
	BOMBYCIL	LIDAE—WAXWINGS		
Bombycilla cedrorum	cedar waxwing	_	_	Х
	PARULIDAE-	WOOD-WARBLERS		
Cardellina pusilla	Wilson's warbler	X	_	Х
Geothlypis trichas	common yellowthroat	Х	_	Х
Icteria virens	yellow-breasted chat	Х	_	_
Oreothlypis celata	orange-crowned warbler	Х	X	Х
Setophaga coronata	yellow-rumped warbler	_	Х	-
Setophaga petechia	yellow warbler	Х	_	Х
Setophaga townsendi	Townsend's warbler	_	_	Х
	PICIDAE—WOO	DPECKERS AND ALLIES		
Colaptes auratus	northern flicker	Х	_	Х
Melanerpes formicivorus	Acorn woodpecker	Х	_	Х
Picoides nuttallii	Nuttall's woodpecker	Х	Х	Х
Picoides pubescens	downy woodpecker	Х	Х	Х
	TROGLO	DYTIDAE—WRENS		
Catherpes mexicanus	canyon wren	Х	Х	Х
Salpinctes obsoletus	rock wren	Х	Х	Х
Thryomanes bewickii	Bewick's wren	Х	Х	Х
Troglodytes aedon	house wren	Х	Х	Х
	TIMALIIL	DAE—BABBLERS		
Chamaea fasciata	wrentit	Х	Х	Х
	INV	ERTEBRATE		
	SCARABA	AEIDAE—BEETLES		
Cotinis mutabilis	Fig beetle	X	_	_
	HESPER	IIDAE—SKIPPERS		
Erynnis funeralis	funereal duskywing	X	_	Х
Heliopetes ericetorum	northern white-skipper	Х	_	Х
Hylephila phyleus	fiery skipper	X	_	Х
Lerodea eufala	Eufala skipper	X	_	Х
Pyrgus albescens	white checkered-skipper	Х	_	Х



Scientific Name	Common Name	San Vicente Reservoir Alternative ¹	Miramar Reservoir Alternative ²	Both Alternatives ³
	LYCAENIDAE—BLUES,	HAIRSTREAKS, AND COP	PERS	
Brephidium exile	western pygmy-blue	_	_	Х
Callophrys augustinus	brown elfin	_	_	Х
Euphilotes battoides bernardino	Bernardino square-spotted blue	-	-	Х
Glaucopsyche lygdamus australis	southern blue	-	Х	
Hemiargus ceraunus	Ceraunus blue	_	_	Х
Hemiargus ceraunus gyas	Edward's blue	_	_	Х
Leptotes marina	marine blue	Х	Х	Х
Plebejus acmon	Acmon blue	Х	Х	Х
Plebejus Iupini	lupine blue	Х	_	Х
Strymon melinus	gray hairstreak	Х	_	Х
•	NYMPHALIDAE—BR	USH-FOOTED BUTTERFLI	ES	
Adelpha bredowii	California sister	_	_	Х
Chlosyne californica	California patch	Х	_	_
Coenonympha tullia california	common california ringlet	Х	-	Х
Danaus gilippus	queen	Х	_	Х
Danaus plexippus	monarch	Х	_	Х
Junonia coenia	common buckeye	Х	Χ	Х
Limenitis Iorquini	Lorquin's admiral	_	_	Х
Nymphalis antiopa	mourning cloak	Х	_	Х
Vanessa annabella	west coast lady	Х	_	Х
Vanessa atalanta	red admiral	Х	_	Х
Vanessa cardui	painted lady	Х	Х	Х
Vanessa virginiensis	American lady	_	_	Х
	PAPILIONIDA	AE—SWALLOWTAILS		
Papilio eurymedon	pale swallowtail	X	Χ	Х
Papilio rutulus	western tiger swallowtail	X	-	Х
Papilio zelicaon	anise swallowtail	Χ	_	X
	PIERIDAE—V	VHITES AND SULFURS		
Anthocharis cethura	desert orangetip	_	_	Х
Anthocharis sara sara	Pacific sara orangetip	Х	_	Х
Colias eurydice	California dogface	Х	_	_
Colias eurytheme	orange sulphur	_	_	Х
Colias harfordii	Harford's sulphur	-	_	Х
Eurema nicippe	sleepy orange	Х	_	Х
Nathalis iole	dainty sulphur	Х	_	Х
Phoebis sennae	cloudless sulphur	Х	_	Х
Pieris rapae	cabbage white	X	Х	Х
Pontia protodice	checkered white	Х	Х	Х
Pontia sisymbrii	spring white	Х	_	Х



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	RIODINIDA	AE—METALMARKS		
Apodemia mormo	Mormon Metalmark	X	_	X
Apodemia mormo virgulti	Behr's metalmark	X	X	X
	PIERIDAE—W	HITES AND SULPHURS		
	Sulphur sp.	X	_	X
	BRANCHINEC	TIDAE—FAIRY SHRIMP		
Branchinecta sandiegonensis	San Diego fairy shrimp	X	X	X
		MAMMAL		
	CANIDAE—V	WOLVES AND FOXES		
Canis latrans	coyote	X	X	X
	FEL	IDAE—CATS		
Lynx rufus	bobcat	_	_	X
	CANIDAE—V	NOLVES AND FOXES		
Canis lupus familiaris	domestic dog	_	_	X
	LEPORIDAE—	-HARES AND RABBITS		
Sylvilagus audubonii	desert cottontail	X	_	-
Sylvilagus bachmani	brush rabbit	X	X	X
	MEPHIT	TIDAE—SKUNKS		
Mephitis mephitis	striped skunk	Х	_	_
	GEOMYIDAE:	POCKET GOPHERS		
Thomomys bottae	Botta's pocket gopher	Х	Х	Х
	PROCYONIDAE—R	ACCOONS AND RELATIVE	S	
Procyon lotor	raccoon	Х	_	Х
	MURIDAE	RATS AND MICE		
	Neotoma sp. (midden)	_	Х	Х
	SCIURID	AE—SQUIRRELS		
Spermophilus (Otospermophilus) beecheyi	California ground squirrel	X	Х	Х
	CERV	/IDAE—DEERS		
Odocoileus hemionus	mule deer	Х	_	_
		REPTILE		
	ANGUIDAE—	-ALLIGATOR LIZARDS		
Elgaria multicarinata	southern alligator lizard	_	_	Х
	PHRYNOSOMAT	IDAE—IGUANID LIZARDS		
Sceloporus occidentalis	western fence lizard	X	Х	Х
Sceloporus orcutti	granite spiny lizard	_	Х	Х
Uta stanburiana	common side-blotched lizard	Х	Х	Х
	SCINO	CIDAE—SKINKS		•
Plestiodon skiltonianus	western skink	X	_	_
	•	•	•	•



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	TEIIDAE—	WHIPTAIL LIZARDS		
Aspidoscelis hyperythra beldingi	Belding's orange-throated whiptail	X	-	-
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	Х	-	-
	BOI	DAE—BOAS		
Lichanura trivirgata	rosy boa	Х	_	_
	COLUBRIDAE	—COLUBRID SNAKES		
Lampropeltis californiae	California kingsnake	-	Х	-
Pituophis catenifer	gophersnake	-	Х	Х
Thamnophis hammondii	two-striped gartersnake	X	_	_
	VIPER	IDAE—VIPERS		
Crotalus ruber	red diamondback rattlesnake	_	-	Х
	EMYDIDAE—BO	X AND WATER TURTLES		
Actinemys marmorata	western pond turtle	-	Χ	Х

Notes:

- 2
- Observed within 500-foot buffer of the components only occurring within the San Vicente Reservoir Alternative study area.

 Observed within 500-foot buffer of the components only occurring within the Miramar Reservoir Alternative study area.

 Observed within 500-foot buffer of components shared by both San Vicente Reservoir Alternative and Miramar Reservoir Alternative study areas.



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APPENDIX L Plant Species Potentially Occurring within Miramar Reservoir

Scientific Name	Common Name	Status (Federal/ State/CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	Pure Water Dechlorination Facility (Dechlorination Facility)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Wastewater Treatment Plant Improvements (Miramar WTP)	Potential to Occur Discussion
Abronia maritima	red sand- verbena	None/None/4.2/None	Coastal dunes/perennial herb/Feb–Nov/0–328	Х	X	X	X	X	X	Х	X	Х	X	X	Not expected to occur. No suitable coastal dune vegetation present.
Acanthomintha ilicifolia	San Diego thorn-mint	FT/CE/1B.1/Covered, Narrow Endemic	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay, openings/annual herb/Apr–June/33–3150	X	L	L	L	L	L	X	X	X	L	L	Low potential to occur in project components with suitable vegetation and clay soils. However, focused surveys for this species were negative. Not expected to occur in project components lacking suitable vegetation and/or clay soils.
Acmispon prostratus	Nuttall's acmispon	None/None/1B.1/ Covered	Coastal dunes, coastal scrub (sandy)/annual herb/Mar–June (July)/0–33	X	L	X	X	X	X	X	X	X	X	X	Low potential to occur along the Morena Pipelines, which run closer to the coast and contains sandy soils. Not expected to occur along other project components farther from the coast.
Adolphia californica	California adolphia	None/None/2B.1/None	Chaparral, coastal scrub, valley and foothill grassland; clay/perennial deciduous shrub/Dec–May/148–2428	X	L	L	L	L	L	X	¥ <u>D</u>	Х	L	L	Observed along the Miramar Reservoir. Low potential to occur in project components with suitable vegetation and clay soils. This perennial shrub would likely have been observed during surveys if present. Not expected to occur in project components lacking suitable vegetation and/or clay soils.

Scientific Name	Common Name	Status (Federal/ State/CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	Pure Water Dechlorination Facility (Dechlorination Facility)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Wastewater Treatment Plant Improvements (Miramar WTP)	Potential to Occur Discussion
Agave shawii var. shawii	Shaw's agave	None/None/2B.1/ Covered, Narrow Endemic	Coastal bluff scrub, coastal scrub/perennial leaf succulent/Sep–May/33–394	X	L	L	X	L	L	X	L	L	L	X	Low potential to occur within project components with suitable coastal scrub habitat. The project site has suitable vegetation and soils, but closest occurrences within San Diego County are only at two localities, Point Loma and Tijuana. Not expected to occur within project components lacking suitable coastal scrub habitat or outside of the species' known elevation range.
Ambrosia chenopodiifolia	San Diego bur-sage	None/None/2B.1/None	Coastal scrub/perennial shrub/Apr–June/180–509	X	L	L	X	L	L	X	L	L	L	X	Low potential to occur in project components with coastal scrub. However, this perennial shrub would have been observed during surveys if present. Not expected to occur in project components lacking coastal scrub habitat or Miramar Wastewater Treatment Plant Improvements, which is outside of the species' known elevation range.
Ambrosia monogyra	singlewhorl burrobrush	None/None/2B.2/None	Chaparral, Sonoran desert scrub; sandy/perennial shrub/Aug-Nov/33-1640	X	X	X	X	X	X	X	X	L	L	X	Low potential to occur in components with suitable sandy chaparral habitat; however, this perennial shrub would likely have been observed if present. Not expected to occur in project components lacking sandy chaparral.

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Ambrosia pumila	San Diego ambrosia	FE/None/ 1B.1/Covered, Narrow Endemic	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; sandy loam or clay, often in disturbed areas, sometimes alkaline/perennial rhizomatous herb/Apr—Oct/66–1362	X	L	L	L	L	L	X	L	L	L	L	Low potential to occur in project components with suitable vegetation and sandy loam or clay soils. Focused surveys for this species were negative. Not expected to occur in project components lacking suitable vegetation and/or sandy loam or clay soils.
Aphanisma blitoides	aphanisma	None/None/1B.2/ Covered	Coastal bluff scrub, coastal dunes, coastal scrub; sandy or gravelly/annual herb/Mar–June/3–1001	Х	L	X	Х	X	Х	Х	Х	X	Х	Х	Low potential to occur along the Morena Pipelines. Not expected to occur in other project components farther from the coast.
Arctostaphylos glandulosa ssp. crassifolia	Del Mar manzanita	FE/None/1B.1/Covered	Chaparral (maritime, sandy)/perennial evergreen shrub/Dec–June/0–1198	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. No maritime chaparral present.
Arctostaphylos otayensis	Otay manzanita	None/None/1B.2/ Covered	Chaparral, cismontane woodland; metavolcanic/perennial evergreen shrub/Jan– Apr/902–5577	Х	Х	Х	Х	X	X	Х	Х	X	Х	Х	Not expected to occur. The site is outside of the species' known elevation range.
Artemisia palmeri	San Diego sagewort	None/None/4.2/None	Chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland; sandy, mesic/perennial deciduous shrub/(Feb) May–Sep/49–3002	X	D	L	X	L	L	X	L	L	Đ <u>L</u>	L	Observed along the Morena Pipelines-and the LFG Pipeline. Low potential to occur within the other components; would have been observed during surveys if present. Not expected to occur within project components lacking suitable habitat.

Scientific Name	Common Name	Status (Federal/ State/CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	Pure Water Dechlorination Facility (Dechlorination Facility)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Wastewater Treatment Plant Improvements (Miramar WTP)	Potential to Occur Discussion
Asplenium vespertinum	western spleenwort	None/None/4.2/None	Chaparral, cismontane woodland, coastal scrub; rocky/perennial rhizomatous herb/Feb–June/591–3281	X	X	X	X	X	L	X	L	X	X	L	Low potential to occur in project components with suitable vegetation within the known elevation range of the species. Focused surveys were negative for this species. Not expected to occur within project components lacking suitable habitat and/or outside the known elevation range of the species.
Astragalus deanei	Dean's milk- vetch	None/None/1B.1/None	Chaparral, cismontane woodland, coastal scrub, riparian forest/perennial herb/Feb–May/246–2280	X	L	L	X	L	L	X	L	L	L	L	Low potential to occur within project components with suitable habitat within the species' known elevation range. The most recent (since 1995) occurrences for this species occur with the Cleveland National Forest or Dehesa. Not expected to occur within project components lacking suitable habitat or outside of the species' known elevation range.
Astragalus oocarpus	San Diego milk-vetch	None/None/1B.2/None	Chaparral (openings), cismontane woodland/perennial herb/May–Aug/1001–5000	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. The site is outside of the species' known elevation range.
Astragalus tener var. titi	coastal dunes milk-vetch	FE/CE/1B.1/Covered, Narrow Endemic	Coastal bluff scrub (sandy), coastal dunes, coastal prairie (mesic); often vernally mesic areas/annual herb/Mar– May/3–164	Х	X	X	X	X	Х	X	X	X	X	X	Not expected to occur. No suitable vegetation present and this species generally occurs along the coast.

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Atriplex coulteri	Coulter's saltbush	None/None/1B.2/None	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland; alkaline or clay/perennial herb/Mar–Oct/10–1509	X	L	L	L	L	L	X	L	Х	L	L	Low potential to occur in project components with suitable vegetation within the known elevation range of the species. Focused surveys were negative for this species. Not expected to occur within project components lacking suitable habitat and/or outside the known elevation range of the species.
Atriplex pacifica	South Coast saltscale	None/None/1B.2/None	Coastal bluff scrub, coastal dunes, coastal scrub, playas/ annual herb/Mar–Oct/0–459	X	L	L	X	L	L	X	L	L	L	X	Low potential to occur in project components with suitable vegetation within the known elevation range of the species. Focused surveys were negative for this species. Not expected to occur within project components lacking suitable habitat and/or outside the known elevation range of the species.
Atriplex parishii	Parish's brittlescale	None/None/1B.1/None	Chenopod scrub, playas, vernal pools; alkaline/ annual herb/June–Oct/82– 6234	X	X	X	X	L	Х	X	Х	Х	L	X	Low potential to occur within project components with vernal pools. Not expected to occur in other project components due to lack of suitable vegetation.
Baccharis vanessae	Encinitas baccharis	FT/CE/1B.1/Covered	Chaparral (maritime), cismontane woodland; sandstone/perennial deciduous shrub/Aug– Nov/197–2362	Х	X	X	X	Х	X	X	X	X	X	X	Not expected to occur. Perennial shrub would have been observed during surveys if present and all occurrences of this species are north of the project alignment (CDFW 2016).

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Berberis nevinii	Nevin's barberry	FE/CE/1B.1/Covered	Chaparral, cismontane woodland, coastal scrub, riparian scrub; sandy or gravelly/perennial evergreen shrub/ Mar– June/230–2707	X	L	L	X	L	L	X	L	_	L	L	Low potential to occur in areas with suitable vegetation and soils. Perennial shrub would have been observed during surveys if present.
Bergerocactus emoryi	golden-spined cereus	None/None/2B.2/None	Closed-cone coniferous forest, chaparral, coastal scrub; sandy/ perennial stem succulent/May– June/10–1296	X	L	L	X	L	L	X	L	L	L	L	Low potential to occur in areas with suitable vegetation and soils. Perennial shrub would have been observed during surveys if present.
Bloomeria clevelandii	San Diego goldenstar	None/None/1B.1/ Covered	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay/perennial bulbiferous herb/Apr–May/164–1526	Х	L	L	L	L	L	X	L	L	L	L	Low potential to occur in project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in project components lacking suitable habitat.
Brodiaea filifolia	thread-leaved brodiaea	FT/CE/1B.1/Covered	Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools; often clay/perennial bulbiferous herb/Mar–June/82–3675	X	L	L	L	L	L	X	L	L	L	L	Low potential to occur in project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in project components lacking suitable habitat.
Brodiaea orcuttii	Orcutt's brodiaea	None/None/1B.1/ Covered	Closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; mesic, clay, sometimes serpentinite/perennial bulbiferous herb/May–July/98–5551	X	L	L	L	L	L	X	L	L	D	L	Observed along the LFG Pipeline. Low potential to occur in most other project components. Species would have been observed during surveys if present. Not expected to occur in project components lacking suitable habitat.

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Calamagrostis koelerioides	Fire reedgrass	None/None/ Covered	Chaparral, meadows and seeps; slopes, dry hills, ridges/perennial grass/June–Aug/0–7546	X	X	X	X	X	Х	X	_	_	L	L	Low potential to occur in components with suitable chaparral habitat; however, this species was not observed during focused surveys. Not expected to occur in project components lacking chaparral.
Calandrinia breweri	Brewer's calandrinia	None/None/4.2/None	Chaparral, coastal scrub; sandy or loamy, disturbed sites and burns/annual herb/Mar–June/33–4003	Х	L	L	Х	L	L	X	L	L	L	L	Low potential to occur in project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in project components lacking suitable habitat.
California macrophylla	round-leaved filaree	None/None/1B.2/None	Cismontane woodland, valley and foothill grassland; clay/annual herb/Mar–May/49–3937	Х	L	L	L	L	L	Х	L	X	L	X	Low potential to occur in project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in project components lacking suitable habitat.
Calochortus dunnii	Dunn's mariposa lily	None/CR/1B.2/Covered	Closed-cone coniferous forest, chaparral, valley and foothill grassland; gabbroic or metavolcanic, rocky/perennial bulbiferous herb/(Feb) Apr–June/607– 6004	X	X	X	X	X	X	X	L	X	X	L	Low potential to occur along the North City Pipeline and Miramar Wastewater Treatment Plant Improvements area; not observed during focused surveys. Not expected to occur in project components below the species' known elevation range.

Scientific Name	Common Name	Status (Federal/ State/CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	Pure Water Dechlorination Facility (Dechlorination Facility)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Wastewater Treatment Plant Improvements (Miramar WTP)	Potential to Occur Discussion
Camissoniopsis lewisii	Lewis' evening- primrose	None/None/3/None	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy or clay/annual herb/Mar–May (June)/0–984	X	L	L	L	L	L	X	L	L	L	L	Low potential to occur in project components with suitable habitat. Species would have been observed during surveys if present.
Castilleja plagiotoma	Mojave paintbrush	None/None/4.3/None	Great Basin scrub (alluvial), Joshua tree woodland, lower montane coniferous forest, pinyon and juniper woodland/perennial herb (hemiparasitic)/Apr– June/984–8202	Х	X	X	X	Х	X	X	Х	X	Х	X	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Caulanthus heterophyllus	California mustard	None/None/None/Cove red	Coastal scrub, chaparral; dry, open, generally after fire, disturbance/annual herb/Mar–May/0–4593	Х	L	L	L	L	L	X	L	L	L	L	Low potential to occur in project components with suitable habitat. Species would have been observed during surveys if present.
Ceanothus cyaneus	Lakeside ceanothus	None/None/1B.2/ Covered	Closed-cone coniferous forest, chaparral/perennial evergreen shrub/Apr– June/771–2477	X	X	X	X	X	X	X	X	X	X	L	Low potential to occur in the Miramar Wastewater Treatment Plant Improvements project component. Not expected to occur to occur in other project components, which are outside of the species' known elevation range.
Ceanothus otayensis	Otay Mountain ceanothus	None/None/1B.2/None	Chaparral (metavolcanic or gabbroic)/perennial evergreen shrub/Jan– Apr/1969–3609	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. The site is outside of the species' known elevation range.

Scientific Name	Common Name	Status (Federal/ State/CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	Pure Water Dechlorination Facility (Dechlorination Facility)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Wastewater Treatment Plant Improvements (Miramar WTP)	Potential to Occur Discussion
Ceanothus verrucosus	wart-stemmed ceanothus	None/None/2B.2/ Covered	Chaparral/perennial evergreen shrub/Dec– May/3–1247	X	₽D	X	X	X	X	X	L	D	D	L	Observed within the buffer around the MBC, Morena Pipelines, and along the LFG Pipeline. Low potential to occur in all other components with chaparral habitat where focused surveys were negative. Not expected to occur in project components lacking chaparral.
Centromadia parryi ssp. australis	southern tarplant	None/None/1B.1/None	Marshes and swamps (margins), valley and foothill grassland (vernally mesic), vernal pools/annual herb/May–Nov/0–1575	X	L	L	L	L		X	L	X		L	Low potential to occur due to limited suitable vernally mesic habitat and because it was not observed during 2016 rare plant surveys. In addition, all occurrences of southern tarplant are north of the project site (CDFW 2016). Not expected to occur in project components lacking suitable habitat.
Centromadia pungens ssp. laevis	smooth tarplant	None/None/1B.1/None	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland; alkaline/annual herb/Apr– Sep/0–2100	X	L	L	L	L	L	X	L	L	L	X	Low potential to occur in project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in project components lacking suitable habitat.
Chaenactis glabriuscula var. orcuttiana	Orcutt's pincushion	None/None/1B.1/None	Coastal bluff scrub (sandy), coastal dunes/annual herb/Jan–Aug/0–328	X	X	Х	Х	X	Х	X	Х	Х	Х	Х	Not expected to occur. No suitable vegetation present. This species generally occurs along the coast.
Chamaebatia australis	southern mountain misery	None/None/4.2/None	Chaparral (gabbroic or metavolcanic)/perennial evergreen shrub/Nov– May/984–3346	Х	Х	Х	X	X	Х	X	Х	Х	Х	X	Not expected to occur. The site is outside of the species' known elevation range.

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Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	FE/CE/1B.2/Covered	Coastal dunes, marshes and swamps (coastal salt)/annual herb (hemiparasitic)/ May-Oct/0-98	X	X	X	X	X	X	X	Х	X	X	X	Not expected to occur. No suitable coastal dune or coastal salt marsh vegetation present.
Chorizanthe leptotheca	Peninsular spineflower	None/None/4.2/None	Chaparral, coastal scrub, lower montane coniferous forest; alluvial fan, granitic/annual herb/May– Aug/984–6234	X	Х	Х	Х	Х	X	X	Х	Х	Х	Х	Not expected to occur. The site is outside of the species' known elevation range.
Chorizanthe orcuttiana	Orcutt's spineflower	FE/CE/1B.1/None	Closed-cone coniferous forest, chaparral (maritime), coastal scrub; sandy openings/annual herb/Mar– May/10–410	X	L	X	X	X	X	X	X	L	L	X	Low potential to occur within project components with chaparral and coastal sage scrub and sandy soils. However, focused surveys for this species were negative. Not expected to occur within project components lacking suitable sandy habitat.
Chorizanthe polygonoides var. longispina	long-spined spineflower	None/None/1B.2/None	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools; often clay/annual herb/Apr–July/98–5020	X	L	L	L	L	L	X	L	D	D	L	Observed within the buffer around the MBC and along the LFG Pipeline. Low potential to occur in all other components that have chaparral, coastal scrub, grassland, or vernal pools with clay soils. Not expected to occur in project components that lack such suitable habitat.

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Cistanthe maritima	seaside cistanthe	None/None/4.2/None	Coastal bluff scrub, coastal scrub, valley and foothill grassland; sandy/annual herb/(Feb) Mar–June (Aug)/16–984	X	L	X	X	X	X	X	X	X	X	X	Low potential to occur along the Morena Pipelines, which as suitable sandy coastal scrub, but focused surveys were negative. Not expected to occur in other project components that are farther from the coast since this species is known to occur at locales with moist sea breezes (Reiser 2001).
Clarkia delicata	delicate clarkia	None/None/1B.2/None	Chaparral, cismontane woodland; often gabbroic/annual herb/Apr– June/771–3281	X	X	X	X	X	X	X	X	X	X	L	Low potential to occur within the Miramar Wastewater Treatment Plant Improvements; however, focused surveys for this species were negative. Not expected to occur in other project components because they are below the species' known elevation range.
Clinopodium chandleri	San Miguel savory	None/None/1B.2/ Covered	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland; rocky, gabbroic, or metavolcanic/perennial shrub/Mar–July/394–3527	X	L	L	L	L	L	X	L	L	L	L	Low potential to occur in project components that contain suitable habitat within the correct elevation range due to negative focused surveys due to limited suitable habitat and not observed during 2016 rare plant surveys. Not expected to occur in project components that lack suitable habitat and/or that are outside the known elevation range for this species.

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Comarostaphylis diversifolia ssp. diversifolia	summer holly	None/None/1B.2/None	Chaparral, cismontane woodland/perennial evergreen shrub/Apr– June/98–2592	X	L	X	X	X	X	X	L	L	L	L	Low potential to occur in most project components with chaparral or oak woodland because this shrub would have been observed during surveys if present. Not expected to occur in components without suitable chaparral or oak woodland habitat.
Convolvulus simulans	small- flowered morning-glory	None/None/4.2/None	Chaparral (openings), coastal scrub, valley and foothill grassland; clay, serpentinite seeps/annual herb/Mar–July/98–2297	Х	L	L	L	L	L	X	L	L	L	L	Low potential to occur in project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in project components lacking suitable habitat.
Corethrogyne filaginifolia var. incana	San Diego sand aster	None/None/1B.1/None	Coastal bluff scrub, chaparral, coastal scrub/perennial herb/June– Sep/10–377	X	L	L	X	L	L	X	L	L	L	X	Low potential to occur in project components with suitable vegetation and soils and within the elevation range of this species. Focused surveys for this species were negative. Not expected to occur in project components lacking suitable habitat and/or outside the known elevation range for this species.
Corethrogyne filaginifolia var. linifolia	Del Mar Mesa sand aster	None/None/1B.1/ Covered	Coastal bluff scrub, chaparral (maritime, openings), coastal scrub; sandy/perennial herb/May– Sep/49–492	Х	L	Х	Х	L	L	X	L	L	L	X	Low potential to occur. Coastal sage scrub present in many components, but Del Mar Mesa sand aster occurrences are all north of the proposed project and focused surveys were negative.

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Scientific Name	Common Name	Status (Federal/ State/CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	Pure Water Dechlorination Facility (Dechlorination Facility)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Wastewater Treatment Plant Improvements (Miramar WTP)	Potential to Occur Discussion
Cryptantha wigginsii	Wiggins' cryptantha	None/None/1B.2/None	Coastal scrub; often clay/annual herb/Feb– June/66–902	Х	L	L	X	L	L	X	L	L	L	L	Low potential to occur in project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in project components lacking suitable habitat.
Cylindropuntia californica var. californica	snake cholla	None/None/1B.1/Cover ed, Narrow Endemic	Chaparral, coastal scrub/perennial stem succulent/Apr–May/98–492	Х	L	L	Х	L	L	X	L	L	L	Х	Low potential to occur in project components with suitable chaparral and/or coastal scrub. Perennial succulent would have been observed during surveys if present.
Deinandra conjugens	Otay tarplant	FT/CE/1B.1/Covered, Narrow Endemic	Coastal scrub, valley and foothill grassland; clay/annual herb/May–June/82–984	X	L	L	L	L	L	Х	L	L	L	L	Low potential to occur in project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in project components lacking suitable habitat.
Deinandra paniculata	paniculate tarplant	None/None/4.2/None	Coastal scrub, valley and foothill grassland, vernal pools; usually vernally mesic, sometimes sandy/annual herb/Apr–Nov/82–3084	X	L	L	L	L	L	X	L	L	L	L	Low potential to occur in project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in project components lacking suitable habitat.
Dichondra occidentalis	western dichondra	None/None/4.2/None	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/perennial rhizomatous herb/(Jan) Mar–July/164–1640	Х	L	L	L	L	L	Х	L	L	L	L	Low potential to occur in most project components due to negative focused surveys. Not expected to occur in project components lacking suitable habitat.

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Dicranostegia orcuttiana	Orcutt's bird's-beak	None/None/2B.1/ Covered	Coastal scrub/annual herb (hemiparasitic)/ (Mar) Apr–July (Sep)/33– 1148	Х	L	L	X	L	L	X	L	L	_	L	Low potential to occur in project components with suitable coastal scrub. Focused surveys for this species were negative. Not expected to occur in project components lacking suitable coastal scrub.
Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	None/None/1B.1/None	Coastal bluff scrub, chaparral, coastal scrub, valley and foothill grassland; rocky, often clay or serpentinite/perennial herb/Apr–June/16–1476	Х	L	L	L	L	L	X	Г	П	L	L	Low potential to occur within components with suitable habitat. Species would have been observed during surveys if present. Not expected to occur in project components with no suitable habitat.
Dudleya brevifolia	short-leaved dudleya	None/CE/1B.1/ Covered, Narrow Endemic	Chaparral (maritime, openings), coastal scrub; Torrey sandstone/perennial herb/Apr–May/98–820	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. No Torrey sandstone soils within the proposed project.
Dudleya variegata	variegated dudleya	None/None/1B.2/Cover ed, Narrow Endemic	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools; clay/perennial herb/ Apr–June/10–1903	Х	L	L	L	L	L	X	L	L	L	L	Low potential to occur in project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in project components lacking suitable habitat.
Dudleya viscida	sticky dudleya	None/None/1B.2/ Covered	Coastal bluff scrub, chaparral, cismontane woodland, coastal scrub; rocky/perennial herb/ May–June/33–1804	Х		L	X	L	L	X	L	L	L	L	Low potential to occur within components with suitable habitat. Species would have been observed during surveys if present. Not expected to occur in project components with no suitable habitat.

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Ericameria palmeri var. palmeri	Palmer's goldenbush	None/None/1B.1/ Covered	Chaparral, coastal scrub; mesic/perennial evergreen shrub/(July) Sep–Nov/ 98–1969	X	L	L	X	L	L	X	L	L	L	L	Low potential to occur within components with suitable habitat. Species would have been observed during surveys if present. Not expected to occur in project components with no suitable habitat.
Eryngium aristulatum var. parishii	San Diego button-celery	FE/CE/1B.1/Covered	Coastal scrub, valley and foothill grassland, vernal pools; mesic/annual / perennial herb/ Apr–June/66–2034	Х	L	L	L	L	L	X	L	L	L	L	Low potential to occur in project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in project components lacking suitable habitat.
Erysimum ammophilum	sand-loving wallflower	None/None/1B.2/ Covered	Chaparral (maritime), coastal dunes, coastal scrub; sandy, openings/perennial herb/Feb–June/0–197	X	L	X	X	X	X	X	X	X	X	X	Low potential to occur along the Morena Pipelines due to suitable sandy chaparral and coastal scrub, but lack of observations during focused surveys. Not expected to occur at the Morena Pump Station due to lack of suitable habitat. Not expected to occur in the remaining project components because they are above the species' known elevation range.
Euphorbia misera	cliff spurge	None/None/2B.2/None	Coastal bluff scrub, coastal scrub, Mojavean desert scrub; rocky/perennial shrub/Dec–Aug (Oct)/ 33–1640	X	L	L	X	L	L	X	L	L	L	L	Low potential to occur in project components with suitable vegetation and soils. Perennial shrub would likely have been observed if present. Not expected to occur in project components lacking suitable habitat.

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Ferocactus viridescens	San Diego barrel cactus	None/None/2B.1/ Covered	Chaparral, coastal scrub, valley and foothill grassland, vernal pools/perennial stem succulent/May–June/ 10–1476	Х	L	L	L	L	L	Х	₽Ū	L	L	L	Observed along the Miramar Reservoir. Low potential to occur in most project components due to lack of observations during focused surveys or not expected to occur due to lack of suitable habitat.
Frankenia palmeri	Palmer's frankenia	None/None/2B.1/None	Coastal dunes, marshes and swamps (coastal salt), playas/ perennial herb/ May–July/0–33	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. No suitable vegetation present.
Fremontodendron mexicanum	Mexican flannelbush	FE/CR/1B.1/None	Closed-cone coniferous forest, chaparral, cismontane woodland; gabbroic, metavolcanic, or serpentinite/perennial evergreen shrub/ Mar–June/33–2349	Х	L	X	X	Х	Х	X	L	L	L	L	Low potential to occur within components that have chaparral vegetation. Not expected to occur in remaining project components. No suitable vegetation present.
Geothallus tuberosus	Campbell's liverwort	None/None/1B.1/None	Coastal scrub (mesic), vernal pools; soil/ephemeral liverwort/N.A./33–1969	Х	L	L	X	L	L	X	L	L	L	L	Low potential to occur in project components with suitable coastal scrub or vernal pools. Focused surveys were negative for this species. Not expected to occur in project components lacking suitable habitat.
Githopsis diffusa ssp. filicaulis	Mission Canyon bluecup	None/None/3.1/None	Chaparral (mesic, disturbed areas)/annual herb/ Apr–June/1476–2297	Х	X	Х	Х	X	Х	Х	Х	X	X	Х	Not expected to occur. The site is outside of the species' known elevation range.

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Grindelia hallii	San Diego gumplant	None/None/1B.2/None	Chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland/ perennial herb/May–Oct/607–5725	Х	X	X	X	X	X	X	L	X	Х	L	Low potential to occur along the North City Pipeline and within the Miramar Wastewater Treatment Plant Improvements where there is suitable chaparral or grassland habitat; however, focused surveys for this species were negative. Not expected to occur in the remaining project components because they are below the species' known elevation range.
Harpagonella palmeri	Palmer's grappling- hook	None/None/4.2/None	Chaparral, coastal scrub, valley and foothill grassland; clay/annual herb/Mar–May/66–3133	Х	L	L	L	L	L	Х	L	L	L	L	Low potential to occur in project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in project components lacking suitable habitat.
Hazardia orcuttii	Orcutt's hazardia	FC/CT/1B.1/None	Chaparral (maritime), coastal scrub; often clay/perennial evergreen shrub/Aug-Oct/262-279	X	L	X	X	X	X	X	X	X	L	X	Low potential to occur along the Morena Pipelines and LFG Pipeline due to suitable sandy chaparral and coastal scrub, but lack of observations during focused surveys. Not expected to occur in the remaining project components because they are outside the species' known elevation range.

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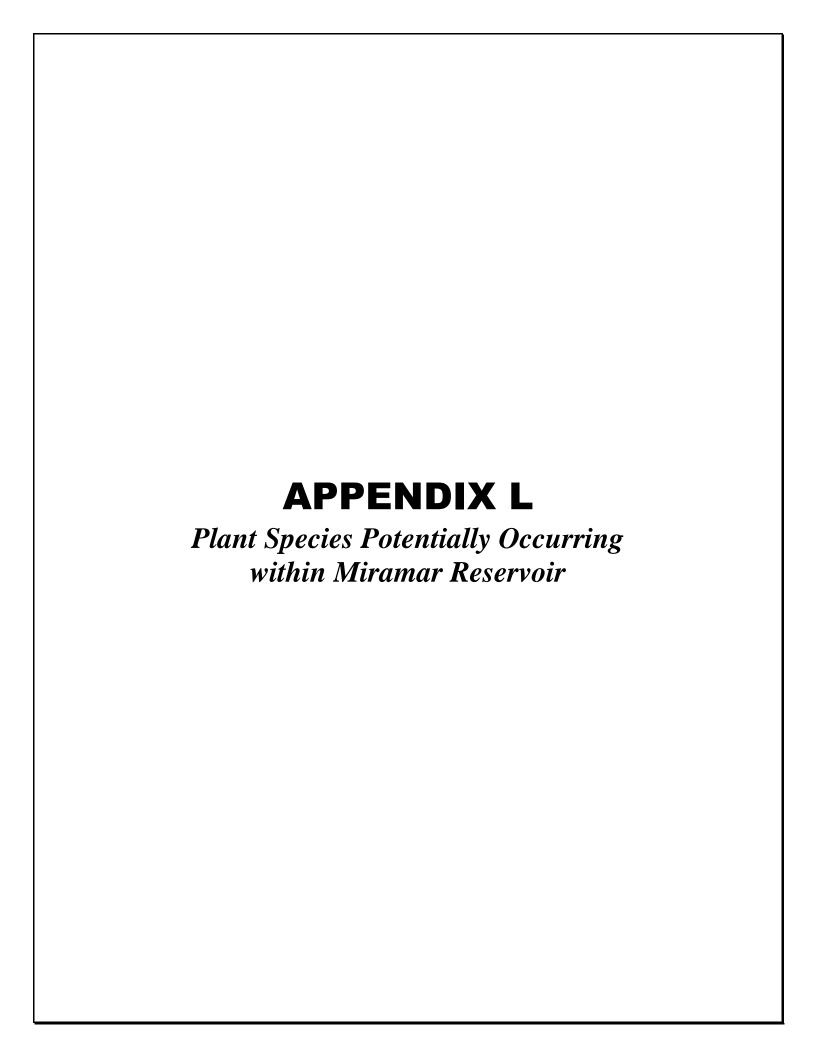
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Scientific Name	Common Name	Status (Federal/ State/CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	Pure Water Dechlorination Facility (Dechlorination Facility)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Wastewater Treatment Plant Improvements (Miramar WTP)	Potential to Occur Discussion
Hesperocyparis forbesii	Tecate cypress	None/None/1B.1/ Covered	Closed-cone coniferous forest, chaparral; clay, gabbroic or metavolcanic/ perennial evergreen tree/N.A./262–4921	X	X	X	X	X	X	X	X	X	X	X	Not expected to occur. Perennial tree would have been observed during surveys if present.
Heterotheca sessiliflora ssp. sessiliflora	beach golden- aster	None/None/1B.1/None	Chaparral (coastal), coastal dunes, coastal scrub/perennial herb/Mar–Dec/0–4019	Х	L	X	X	Х	X	X	X	X	X	X	Low potential to occur along the Morena Pipelines due to lack of observations during focused surveys. Not expected to occur within project components farther from the coast.
Holocarpha virgata ssp. elongata	graceful tarplant	None/None/4.2/None	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/annual herb/May–Nov/197–3609	X	L	D	L	D	L	X	₽Ū	D	D	L	Observed within the buffer around the MBC, NCWRP, North City Pipeline, North City Pure Water Facility, and along the LFG Pipeline. Low potential to occur in other project components due to negative focused surveys. Not expected to occur in project components that lack suitable habitat.
Hordeum intercedens	vernal barley	None/None/3.2/None	Coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), vernal pools/ annual herb/Mar–June/ 16–3281	Х	L	L	L	L	L	Х	L	L	L	L	Low potential to occur in project components with suitable vegetation. Focused surveys for this species were negative. Not expected to occur in project components lacking suitable habitat.
Horkelia truncata	Ramona horkelia	None/None/1B.3/None	Chaparral, cismontane woodland; clay, gabbroic/perennial herb/May–June/1312–4265	Х	Х	Х	Х	Х	Х	X	Х	Х	Х	Х	Not expected to occur. The site is outside of the species' known elevation range.

Scientific Name	Common Name	Status (Federal/ State/CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	Pure Water Dechlorination Facility (Dechlorination Facility)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Wastewater Treatment Plant Improvements (Miramar WTP)	Potential to Occur Discussion
Isocoma menziesii var. decumbens	decumbent goldenbush	None/None/1B.2/None	Chaparral, coastal scrub (sandy, often in disturbed areas)/perennial shrub/Apr–Nov/33–443	X	L	L	X	L		X	L	D	L	X	Observed within the buffer around the MBC. Low potential to occur in all other components. Perennial shrub would likely have been observed during surveys if present. Not expected to occur in project components lacking suitable habitat.
Iva hayesiana	San Diego marsh-elder	None/None/2B.2/None	Marshes and swamps, playas/ perennial herb/Apr–Oct/33–1640	X	₽D	X	X	X	X	X	₽D	X	L	L	Observed within the buffer around the Morena Pipelines and the North City Pipeline. Low potential to occur within project components with suitable freshwater marsh habitat where this perennial herb would likely have been observed during surveys if present. Although a portion of the North City Pipeline contains areas of freshwater marsh that were not surveyed, the area is surrounded by development. Not expected to occur with the other components.
Juglans californica	Southern California black walnut	None/None/4.2/None	Chaparral, cismontane woodland, coastal scrub; alluvial/ perennial deciduous tree/ Mar– Aug/164–2953	Х	L	Х	Х	Х	Х	X	Х	X	X	X	Not expected to occur in other project components. Perennial tree would have been observed during surveys if present.

Scientific Name	Common Name	Status (Federal/ State/CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	Pure Water Dechlorination Facility (Dechlorination Facility)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Wastewater Treatment Plant Improvements (Miramar WTP)	Potential to Occur Discussion
Juncus acutus ssp. leopoldii	South- western spiny rush	None/None/4.2/None	Coastal dunes (mesic), meadows and seeps (alkaline seeps), marshes and swamps (coastal salt)/perennial rhizomatous herb/(Mar) May–June/ 10–2953	¥₫	X	X	Х	X	X	X	X	X	X	X	Observed within the San Diego River floodplain south of the Morena Pump Station. Not expected to occur. This conspicuous perennial species would have been observed during surveys if present.
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	None/None/1B.1/None	Marshes and swamps (coastal salt), playas, vernal pools/annual herb/Feb–June/3–4003	X	Х	X	х	L	Х	X	X	X	L	X	Low potential to occur within vernal pools on site; focused surveys were negative. Not expected to occur in project components without vernal pools.
Lepechinia cardiophylla	heart-leaved pitcher sage	None/None/1B.2/ Covered	Closed-cone coniferous forest, chaparral, cismontane woodland/perennial shrub/Apr–July/1706–4495	Х	Х	Х	Х	X	Х	Х	Х	Х	Х	Х	Not expected to occur. The site is outside of the species' known elevation range.
Lepechinia ganderi	Gander's pitcher sage	None/None/1B.3/ Covered	Closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland; gabbroic or metavolcanic/perennial shrub/June–July/ 1001–3297	X	X	X	Х	Х	Х	Х	Х	Х	X	Х	Not expected to occur. The site is outside of the species' known elevation range.
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	None/None/4.3/None	Chaparral, coastal scrub/annual herb/ Jan–July/3–2904	Х	L	L	Х	L	L	X	L	D	D	L	Observed within the buffer around the MBC and along the LFG Pipeline. Low potential to occur in other project components due to lack of observations during focused surveys. Not expected to occur in project components lacking suitable habitat.



Scientific Name	Common Name	Status (Federal/ State/CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	Pure Water Dechlorination Facility (Dechlorination Facility)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Wastewater Treatment Plant Improvements (Miramar WTP)	Potential to Occur Discussion
Leptosiphon grandiflorus	large-flowered leptosiphon	None/None/4.2/None	Coastal bluff scrub, closed- cone coniferous forest, cismontane woodland, coastal dunes, coastal prairie, coastal scrub, valley and foothill grassland; usually sandy/annual herb/ Apr–Aug/16–4003	Х	L	X	X	L	L	Х	L	L	L	L	Low potential to occur in project components with suitable vegetation and soils; focused surveys were negative. Not expected to occur in project components lacking suitable vegetation and sandy soils.
Leptosyne maritima	sea dahlia	None/None/2B.2/None	Coastal bluff scrub, coastal scrub/perennial herb /Mar-May/16-492	X	X	X	X	X	X	X	X	X	X	X	Not expected to occur. Species prefers sandstone cliffs near the ocean, which do not occur within the project site and focused surveys were negative for this species.
Lycium californicum	California box-thorn	None/None/4.2/None	Coastal bluff scrub, coastal scrub/perennial shrub/(Dec) Mar–Aug/ 16–492	Х	L	L	Х	L	L	Х	L	L	L	Х	Low potential to occur. Perennial shrub would have been observed during surveys if present. Not expected to occur within project components lacking suitable habitat.
Microseris douglasii ssp. platycarpha	small- flowered microseris	None/None/4.2/None	Cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools; clay/annual herb/Mar–May/49–3510	X	L	L	L	L	L	X	L	L	₽Ū	L	Observed along the LFG Pipeline. Low potential to occur in project components with suitable vegetation and soils; focused surveys were negative. Not expected to occur in project components lacking suitable vegetation and sandy soils.

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Scientific Name	Common Name	Status (Federal/ State/CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	Pure Water Dechlorination Facility (Dechlorination Facility)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Wastewater Treatment Plant Improvements (Miramar WTP)	Potential to Occur Discussion
Mimulus clevelandii	Cleveland's bush monkeyflower	None/None/4.2/ Covered	Chaparral, cismontane woodland, lower montane coniferous forest; gabbroic, often in disturbed areas, openings, rocky/perennial rhizomatous herb/ Apr–July/1476–6562	X	X	X	X	X	X	X	X	X	X	X	Not expected to occur. The site is outside of the species' known elevation range.
Mimulus aurantiacus var. aridus	low bush monkey- flower	None/None/4.3/None	Chaparral (rocky), Sonoran desert scrub/perennial evergreen shrub/ Apr–July/2461–3937	Х	Х	Х	X	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. The site is outside of the species' known elevation range.
Mimulus diffusus	Palomar monkey- flower	None/None/4.3/None	Chaparral, lower montane coniferous forest; sandy or gravelly/ annual herb/ Apr–June/4003–6004	X	Х	Х	X	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. The site is outside of the species' known elevation range.
Mobergia calculiformis	light gray lichen	None/None/3/None	Coastal scrub (?); on rocks/crustose lichen (saxicolous)/ N.A./33–33	X	L	X	X	X	X	X	X	X	X	X	Low potential to occur along the Morena Pipelines. There is only one historical occurrence within the City of San Diego immediately south of Balboa Park (Consortium of North American Lichen Herbaria). The project site is approximately 4 miles north of Balboa Park. Not expected to occur in other project components due to lack of suitable coastal scrub habitat and/or elevations above the species' known elevation range.
Monardella hypoleuca ssp. lanata	felt-leaved monardella	None/None/1B.2/Cover ed	Chaparral, cismontane woodland/perennial rhizomatous herb/June– Aug/984–5167	Х	Х	Х	X	Х	X	Х	Х	Х	Х	Х	Not expected to occur. The site is outside of the species' known elevation range.

Scientific Name Monardella viminea	Common Name willowy monardella	Status (Federal/ State/CRPR/MSCP) FE/CE/1B.1/Covered	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet) Chaparral, coastal scrub, riparian forest, riparian	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station) X	Pure Water Dechlorination Facility (Dechlorination Facility)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Wastewater Treatment Plant Improvements (Miramar WTP)	Potential to Occur Discussion Not expected to occur. No suitable alluvial
			scrub, riparian woodland; alluvial ephemeral washes/perennial herb/June-Aug/164-738												ephemeral washes present.
Mucronea californica	California spineflower	None/None/4.2/None	Chaparral, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy/annual herb/Mar–July (Aug)/0–4593	X	L	X	L	X	X	X	X	X	X	X	Low potential to occur along the Morena Pipelines due to suitable vegetation and sandy soils. However, this species was not observed during focused surveys. Not expected to occur in project components lacking suitable habitat, including sandy soils.
Myosurus minimus ssp. apus	little mousetail	None/None/3.1/None	Valley and foothill grassland, vernal pools (alkaline)/ annual herb/Mar–June/66–2100	X	X	L	L	L	L	X		L	L	X	Low potential to occur in the project site due to limited suitable habitat and not observed during 2016 rare plant surveys. Historical occurrences are known from three localities, San Onofre, Camp Pendleton, and Otay Mesa. Not expected to occur within project components lacking suitable vegetation.
Nama stenocarpa	mud nama	None/None/2B.2/None	Marshes and swamps (lake margins, riverbanks)/ annual/perennial herb/Jan–July/16–1640	Х	L	X	X	X	X	X	L	X	L	L	Low potential to occur in project components with marshes and/or riverbanks with suitable habitat. Not expected to occur in project components lacking suitable habitat.

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Navarretia fossalis	spreading navarretia	FT/None/1B.1/Covered, Narrow Endemic	Chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, vernal pools/annual herb/Apr–June/98–2149	X	L	X	X	L	L	X	L	X	L	L	Low potential to occur in project components with suitable vegetation and clay soils. Closest occurrence is within the MCAS Miramar, east of the Miramar Landfill and north SR-52. Not expected to occur within project components lacking suitable habitat.
Navarretia prostrata	prostrate vernal pool navarretia	None/None/1B.1/None	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools; mesic/ annual herb/Apr–July/10–3970	Х	L	L	L	L	L	X	L	L	L	L	Low potential to occur. Species would have been observed during surveys if present. Historical occurrences are known from Kearny Mesa off of Kearny Villa Road but not with the project site. Not expected to occur within project components lacking suitable vegetation.
Nemacaulis denudata var. denudata	coast woolly- heads	None/None/1B.2/None	Coastal dunes/annual herb/Apr–Sep/0–328	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. No suitable coastal dune habitat present.
Nemacaulis denudata var. gracilis	slender cotton- heads	None/None/2B.2/None	Coastal dunes, desert dunes, Sonoran desert scrub/annual herb/(Mar) Apr–May/-164–1312	X	X	X	X	X	Х	Х	Х	Χ	Х	Х	Not expected to occur. No suitable vegetation present.
Nolina interrata	Dehesa nolina	None/CE/1B.1/Covered	Chaparral (gabbroic, metavolcanic, or serpentinite)/perennial herb/June–July/607–2805	Х	X	X	X	X	X	X	X	X	X	X	Not expected to occur. Limited suitable gabbroic, metavolcanic, or serpentinite chaparral present and this perennial herb would have been observed during surveys if present.

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Ophioglossum californicum	California adder's- tongue	None/None/4.2/None	Chaparral, valley and foothill grassland, vernal pools (margins); mesic/perennial rhizomatous herb/(Dec) Jan–June/197–1722	Х	X	L	L	L	L	X	L	L	L	L	Low potential to occur in project components with suitable vegetation. Focused surveys for this species were negative. Not expected to occur within project components lacking suitable habitat.
Orcuttia californica	California Orcutt grass	FE/CE/1B.1/Covered, Narrow Endemic	Vernal pools/annual herb/Apr–Aug/49–2165	X	X	X	X	L	X	X	X	X	L	X	Low potential to occur at the North City Pure Water Facility and along the LFG Pipeline where vernal pools are present, but the species was not observed during focused surveys. Not expected to occur within project components lacking suitable vernal pool habitat.
Orobanche parishii ssp. brachyloba	short-lobed broomrape	None/None/4.2/None	Coastal bluff scrub, coastal dunes, coastal scrub; sandy/ perennial herb (parasitic)/Apr–Oct/10–1001	X	L	X	X	X	X	X	Х	X	X	X	Low potential to occur along the Morena Pipelines due to suitable vegetation and sandy soils. However, this species was not observed during focused surveys. Not expected to occur in project components lacking suitable habitat, including sandy soils.
Packera ganderi	Gander's ragwort	None/CR/1B.2/Covered	Chaparral (burns, gabbroic outcrops)/perennial herb/Apr–June/1312–3937	Х	X	Х	X	X	Х	Х	Х	Х	X	Х	Not expected to occur. The site is outside of the species' known elevation range.

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Pentachaeta aurea ssp. aurea	golden-rayed pentachaeta	None/None/4.2/None	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, valley and foothill grassland/annual herb/Mar–July/262–6070	Х	L	L	L	L	L	X	₽Ū	L	D	L	Observed along the LFG Pipeline and the Miramar Reservoir. Low potential to occur in all other components with negative survey results. Not expected to occur in project components lacking suitable habitat.
Phacelia ramosissima var. austrolitoralis	south coast branching phacelia	None/None/3.2/None	Chaparral, coastal dunes, coastal scrub, marshes and swamps (coastal salt); sandy, sometimes rocky/perennial herb/Mar–Aug/16–984	Х	L	L	Х	L	L	X	L	L	L	L	Low potential to occur in project components with suitable vegetation. Focused surveys for this species were negative. Not expected to occur within project components lacking suitable habitat.
Phacelia stellaris	Brand's star phacelia	FC/None/1B.1/None	Coastal dunes, coastal scrub/annual herb/ Mar–June/3–1312	X	L	L	X	L	L	X	L	L	L	L	Low potential to occur in project components with suitable vegetation. Focused surveys for this species were negative. Not expected to occur within project components lacking suitable habitat.
Pinus torreyana ssp. torreyana	Torrey pine	None/None/1B.2/ Covered	Closed-cone coniferous forest, chaparral; sandstone/perennial evergreen tree/N.A./ 246–525	Х	X	X	Х	Х	Х	X	X	X	Х	X	Not expected to occur. Perennial tree would have been observed during surveys if present. Torrey pines were observed within the Miramar Reservoir study area; however, trees are planted and not native occurrences.

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Piperia cooperi	chaparral rein orchid	None/None/4.2/None	Chaparral, cismontane woodland, valley and foothill grassland/perennial herb/Mar–June/49–5200	X	L	L	L	L	L	X	L	L	L	L	Low potential to occur in project components with suitable vegetation. Focused surveys for this species were negative. Not expected to occur within project components lacking suitable habitat.
Pogogyne abramsii	San Diego mesa mint	FE/CE/1B.1/Covered, Narrow Endemic	Vernal pools/annual herb/Mar–July/295–656	Х	X	X	X	L	X	X	Х	X	L	X	Low potential to occur at the North City Pure Water Facility and along the LFG Pipeline where vernal pools are present, but the species was not observed during focused surveys. Not expected to occur within project components lacking suitable vernal pool habitat.
Pogogyne nudiuscula	Otay Mesa mint	FE/CE/1B.1/Covered, Narrow Endemic	Vernal pools/annual herb/May–July/295–820	X	X	X	X	L	X	X	X	X	L	X	Low potential to occur at the North City Pure Water Facility and along the LFG Pipeline where vernal pools are present, but the species was not observed during focused surveys. Not expected to occur within project components lacking suitable vernal pool habitat.

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Polygala cornuta var. fishiae	Fish's milkwort	None/None/4.3/None	Chaparral, cismontane woodland, riparian woodland/perennial deciduous shrub/ May–Aug/328–3281	Х	L	X	X	X	X	X	L	L	L	L	Low potential to occur in project components with suitable habitat, but this perennial deciduous shrub would likely have been observed during surveys if present. Not expected to occur in project components lacking suitable habitat or outside the species' known elevation range.'
Pseudognaphalium leucocephalum	white rabbit- tobacco	None/None/2B.2/None	Chaparral, cismontane woodland, coastal scrub, riparian woodland; sandy, gravelly/perennial herb/(July) Aug–Nov (Dec)/0–6890	X	L	L	X	L	L	Х	L	L	L	L	Low potential to occur in project components with suitable vegetation. Focused surveys for this species were negative. Not expected to occur within project components lacking suitable habitat.
Quercus cedrosensis	Cedros Island oak	None/None/2B.2/None	Closed-cone coniferous forest, chaparral, coastal scrub/perennial evergreen tree/Apr–May/837–3150	Х	Х	X	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. The site is outside of the species' known elevation range.
Quercus dumosa	Nuttall's scrub oak	None/None/1B.1/None	Closed-cone coniferous forest, chaparral, coastal scrub; sandy, clay loam/perennial evergreen shrub/Feb–Apr (Aug)/ 49–1312	X	L	₽Ū	X	L	L	X	<u>+D</u>	D	₽Ū	L	Observed within the buffer around the MBC, LFG Pipeline, and the Miramar Reservoir. Low potential to occur in all other components because this evergreen shrub would likely have been observed during surveys if present. Not expected to occur within project components lacking suitable habitat.
Quercus engelmannii	Engelmann oak	None/None/4.2/None	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland/perennial deciduous tree/Mar– June/164–4265	Х	Х	Х	Х	X	Х	X	Х	Х	X	X	Not expected to occur. Perennial tree would have been observed during surveys if present.

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Rosa minutifolia	small-leaved rose	None/CE/2B.1/Covered	Chaparral, coastal scrub/perennial deciduous shrub/Jan–June/492–525	X	X	X	X	X	X	X	L	X	X	L	Low potential to occur in components at higher elevation with suitable chaparral or coastal scrub habitat. However, perennial shrub would likely have been observed during surveys if present. Not expected to occur in project components below the species' known elevation range.
Salvia munzii	Munz's sage	None/None/2B.2/None	Chaparral, coastal scrub/perennial evergreen shrub/Feb–Apr/377–3494	Х	L	L	Х	L	L	X	L	L	L	L	Low potential to occur in most project components because this shrub would likely have been observed during surveys if present. Not expected to occur within project components lacking suitable habitat.
Selaginella cinerascens	ashy spike- moss	None/None/4.1/None	Chaparral, coastal scrub/perennial rhizomatous herb/N.A./ 66–2100	Х	L	D	X	<u>f</u> D	L	X	<u>†D</u>	D	D	L	Observed within the buffer around the MBC, and NCWRP, NCPWF, North City Pipeline, and the LFG Pipeline. Observed along the Miramar Reservoir. Low potential to occur in all other components due to lack of observations during focused surveys. Not expected to occur within project components lacking suitable vegetation.

Scientific Name	Common Name	Status (Federal/ State/CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	Pure Water Dechlorination Facility (Dechlorination Facility)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Wastewater Treatment Plant Improvements (Miramar WTP)	Potential to Occur Discussion
Senecio aphanactis	chaparral ragwort	None/None/2B.2/None	Chaparral, cismontane woodland, coastal scrub; sometimes alkaline/annual herb/Jan–Apr/49–2625	Х	L	L	X	L	L	X	L	L	L	L	Low potential to occur in project components with suitable vegetation and soils; focused surveys were negative. Not expected to occur in project components lacking suitable vegetation and sandy soils.
Solanum xanti	Purple nightshade	None/None/ Covered	Coastal scrub, chaparral, cismontane woodland, lower montane coniferous forest/perennial herb / perennial shrub/ June–July/0–8858	Х	L	L	Х	L	L	Х	L	L	L	L	Low potential to occur in project components with suitable vegetation and soils; focused surveys were negative. Not expected to occur in project components lacking suitable vegetation and sandy soils.
Sphaerocarpos drewei	bottle liverwort	None/None/1B.1/None	Chaparral, coastal scrub; openings, soil/ephemeral liverwort/N.A./295–1969	Х	L	L	X	L	L	X	L	L	L	L	Low potential to occur in project components with suitable vegetation and soils within the elevation range of the species; focused surveys were negative. Not expected to occur in project components lacking suitable vegetation and sandy soils.
Stemodia durantifolia	purple stemodia	None/None/2B.1/None	Sonoran desert scrub (often mesic, sandy)/perennial herb/Jan– Dec/591–984	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. No suitable desert scrub habitat present.
Stipa diegoensis	San Diego County needle grass	None/None/4.2/None	Chaparral, coastal scrub; rocky, often mesic/perennial herb/Feb– June/33–2625	X	L	L	X	L	L	X	L	L	L	L	Low potential to occur. Species would have been observed during surveys if present. Not expected to occur in project components lacking suitable vegetation.

Scientific Name	Common Name	Status (Federal/ State/CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	Pure Water Dechlorination Facility (Dechlorination Facility)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Wastewater Treatment Plant Improvements (Miramar WTP)	Potential to Occur Discussion
Streptanthus bernardinus	Laguna Mountains jewelflower	None/None/4.3/None	Chaparral, lower montane coniferous forest/perennial herb/May–Aug/2198–8202	Х	X	X	X	X	X	X	X	Х	X	X	Not expected to occur. The site is outside of the species' known elevation range.
Stylocline citroleum	oil neststraw	None/None/1B.1/None	Chenopod scrub, coastal scrub, valley and foothill grassland; clay/annual herb/Mar–Apr/164–1312	Х	L	L	L	L	L	X	L	L	L	L	Low potential to occur. Species would have been observed during surveys if present. Not expected to occur in project components lacking suitable vegetation.
Suaeda esteroa	estuary seablite	None/None/1B.2/None	Marshes and swamps (coastal salt)/perennial herb/May–Oct (Jan)/0–16	Х	X	X	X	Х	X	X	X	X	X	X	Not expected to occur. No suitable coastal salt marsh present.
Suaeda taxifolia	woolly seablite	None/None/4.2/None	Coastal bluff scrub, coastal dunes, marshes and swamps (margins of coastal salt)/ perennial evergreen shrub/Jan–Dec/0–164	Х	Х	Х	Х	X	X	Х	X	X	X	Х	Not expected to occur. No suitable coastal habitat present.
Tetracoccus dioicus	Parry's tetracoccus	None/None/1B.2/ Covered	Chaparral, coastal scrub/perennial deciduous shrub/Apr–May/541–3281	X	X	X	X	X	X	X	L	X	X	L	Low potential to occur in components at higher elevation with suitable chaparral or coastal scrub habitat. However, perennial shrub would likely have been observed during surveys if present. Not expected to occur in project components below the species' known elevation range.
Texosporium sancti-jacobi	woven-spored lichen	None/None/3/None	Chaparral (openings); on soil, small mammal pellets, dead twigs, and on Selaginella spp./crustose lichen (terricolous)/ N.A./951–2165	Х	X	Х	Х	X	Х	X	X	X	X	X	Not expected to occur. The site is outside of the species' known elevation range.

Scientific Name	Common Name	Status (Federal/ State/CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	Pure Water Dechlorination Facility (Dechlorination Facility)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Wastewater Treatment Plant Improvements (Miramar WTP)	Potential to Occur Discussion
Triquetrella californica	coastal triquetrella	None/None/1B.2/None	Coastal bluff scrub, coastal scrub; soil/moss/ N.A./ 33–328	X	L	L	X	L	L	X	L	X	L	X	Low potential to occur along the Morena Pipelines. Not expected to occur in other project components farther from the coast. Known in California from fewer than ten small coastal occurrences.
Viguiera laciniata	San Diego County viguiera	None/None/4.2/None	Chaparral, coastal scrub/perennial shrub/Feb– June (Aug)/197–2461	X	L	D	X	L	L	X	D	L	D	L	Observed within the buffer around the North City Pipeline and NCWRP and along the LFG Pipeline. Low potential to occur in all other components that have suitable habitat, but where focused surveys were negative. Not expected to occur within project components lacking suitable habitat.
Xanthisma junceum	rush-like bristleweed	None/None/4.3/None	Chaparral, coastal scrub/perennial herb/June– Jan/787–3281	X	X	X	X	X	X	X California and Fither	X	X	X	L	Low potential to occur within the Miramar Wastewater Treatment Plant Improvements; however, focused surveys for this species were negative. Not expected to occur in other project components because they are below the species' known elevation range.

Notes

X = not expected (no suitable habitat and/or outside elevation range)

D = detected within the component or 100-foot buffer

L = low potential (suitable habitat but surveys were negative)

Status Legend:

FE: Federally listed as endangered

FT: Federally listed as threatened

FC: Federal Candidate for listing

DL: Delisted

CE: State listed as endangered

CT: State listed as threatened

CR: State Rare

CRPR 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere

CRPR 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

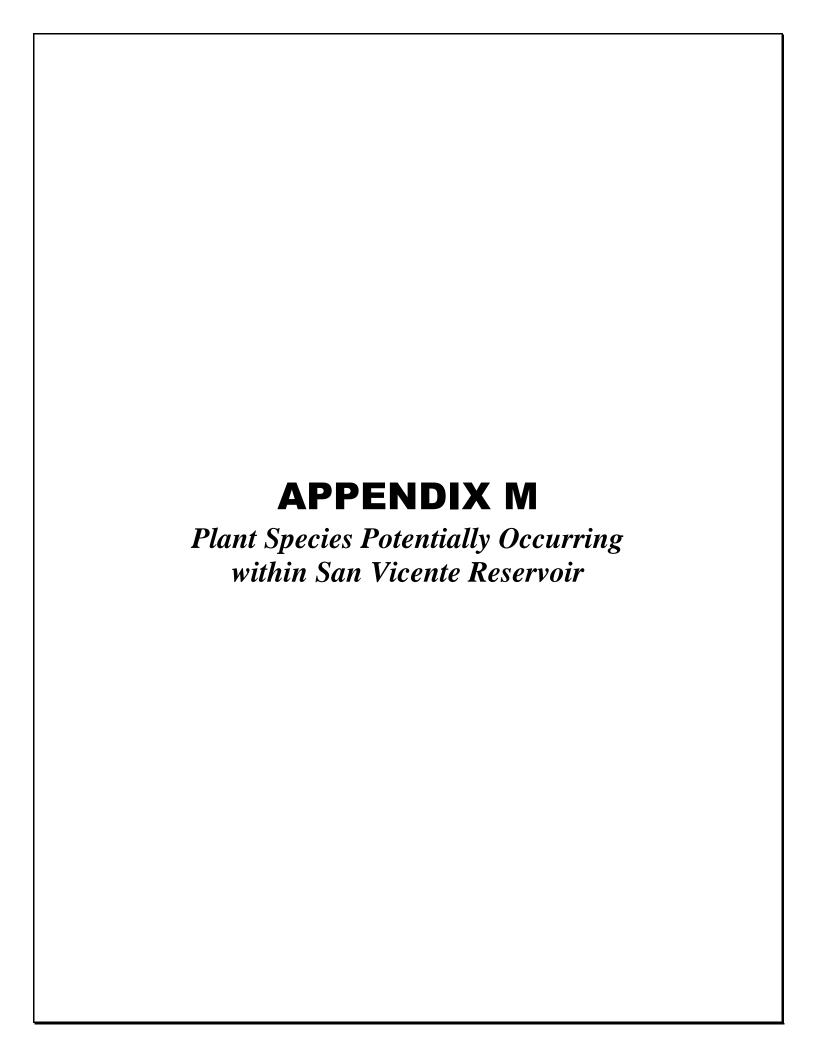
CRPR 2A: Plants Presumed Extirpated in California, But More Common Elsewhere

CRPR 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

CRPR 3: Plants About Which More Information is Needed - A Review List

CRPR 4: Plants of Limited Distribution - A Watch List

- .1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- .3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)



APPENDIX M Plant Species Potentially Occurring within San Vicente Reservoir

Scientific Name Abronia	Common Name red sand-	Status (Federal/State/ CRPR/MSCP) None/None/4.2/	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet) Coastal dunes/perennial	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station) X	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station) X	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline -In- Reservoir Alternative Terminus (San Vicente Pipeline - IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT) X	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur Not expected to
maritima	verbena	None	herb/Feb-Nov/0-328														occur. No suitable coastal dune vegetation present.
Acanthomintha ilicifolia	San Diego thorn-mint	FT/CE/1B.1/ Covered, Narrow Endemic	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay, openings/annual herb/Apr–June/33–3150	X	L	L	L	L	L	L	L	L	L	X	X	L	Low potential to occur in Project components with suitable vegetation and clay soils. However, focused surveys for this species were negative. Not expected to occur in Project components lacking suitable vegetation and/or clay soils.
Acmispon prostratus	Nuttall's acmispon	None/None/1B.1/ Covered	Coastal dunes, coastal scrub (sandy)/annual herb/Mar–June (July)/ 0–33	X	L	X	X	X	X	L	L	L	L	X	X	X	Low potential to occur along the Morena Pipelines, which run closer to the coast and contains sandy soils. Not expected to occur along other Project components farther from the coast.

Scientific Name	Common Name	Status (Federal/State/ CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline –In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Adolphia californica	California adolphia	None/None/2B.1/ None	Chaparral, coastal scrub, valley and foothill grassland; clay/perennial deciduous shrub/ Dec–May/148–2428	Х	L	L	L	L	L	L	L	L	L	L	X	L	Low potential to occur in Project components with suitable vegetation and clay soils. This perennial shrub would likely have been observed during surveys if present. Not expected to occur in Project components lacking suitable vegetation and/or clay soils.
Agave shawii var. shawii	Shaw's agave	None/None/2B.1/ Covered, Narrow Endemic	Coastal bluff scrub, coastal scrub/perennial leaf succulent/Sep—May/33—394	X	L	L	X	L	L	L	L	L	L	L	L	L	Low potential to occur within Project components with suitable coastal scrub habitat. The project site has suitable vegetation and soils, but closest occurrences within San Diego County are only at two localities, Point Loma and Tijuana. Not expected to occur within Project components lacking suitable coastal scrub habitat or outside of the species' known elevation range.

Scientific Name	Common Name	Status (Federal/State/ CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline –In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Ambrosia chenopodiifolia	San Diego bur-sage	None/None/2B.1/ None	Coastal scrub/perennial shrub/Apr–June/180–509	X	L	L	X		L	L	L	L	L	L	L	L	Low potential to occur in Project components with coastal scrub. However, this perennial shrub would have been observed during surveys if present. Not expected to occur in Project components lacking coastal scrub habitat or Miramar Wastewater Treatment Plant Improvements, which is outside of the species' known elevation range.
Ambrosia monogyra	singlewhorl burrobrush	None/None/2B.2/ None	Chaparral, Sonoran desert scrub; sandy/perennial shrub/Aug–Nov/33–1640	X	X	X	X	X	X	L	L	L	L	L	L	L	Low potential to occur in components with suitable sandy chaparral habitat; however, this perennial shrub would likely have been observed if present. Not expected to occur in Project components lacking sandy chaparral.

Scientific Name	Common Name	Status (Federal/State/ CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline –In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Ambrosia pumila	San Diego ambrosia	FE/None/1B.1/ Covered, Narrow Endemic	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; sandy loam or clay, often in disturbed areas, sometimes alkaline/perennial rhizomatous herb/Apr—Oct/66–1362	X	L	L	L	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation and sandy loam or clay soils. Focused surveys for this species were negative. Not expected to occur in Project components lacking suitable vegetation and/or sandy loam or clay soils.
Aphanisma blitoides	aphanisma	None/None/1B.2/ Covered	Coastal bluff scrub, coastal dunes, coastal scrub; sandy or gravelly/annual herb/Mar–June/3–1001	X	L	X	X	X	X	L	L	L	L	L	X	X	Low potential to occur along the Morena Pipelines. Not expected to occur in other Project components farther from the coast.
Arctostaphylos glandulosa ssp. crassifolia	Del Mar manzanita	FE/None/1B.1/ Covered	Chaparral (maritime, sandy)/perennial evergreen shrub/Dec– June/0–1198	Х	X	X	X	X	X	Ĺ	L	L	L	L	X	X	Not expected to occur. No maritime chaparral present.
Arctostaphylos otayensis	Otay manzanita	None/None/1B.2/ Covered	Chaparral, cismontane woodland; metavolcanic/perennial evergreen shrub/Jan– Apr/902–5577	Х	X	Х	Х	Х	Х	L	L	L	L	L	Х	X	Not expected to occur. The site is outside of the species' known elevation range.

Scientific Name	Common Name	Status (Federal/State/ CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline –In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Artemisia palmeri	San Diego sagewort	None/None/4.2/ None	Chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland; sandy, mesic/perennial deciduous shrub/(Feb) May–Sep/49–3002	X	D	L	X	L		L	L	L	L	L		ĐL	Observed along the Morena Pipelines, In-Reserveir Alternative Terminus, Tunnel Alternative Terminus, and the LFG Pipeline. Low potential to occur within the other components; would have been observed during surveys if present. Not expected to occur within Project components lacking suitable habitat.
Asplenium vespertinum	western spleenwort	None/None/4.2/ None	Chaparral, cismontane woodland, coastal scrub; rocky/perennial rhizomatous herb/Feb–June/591–3281	X	X	X	X	X	L	L	L	L	L	L	X	X	Low potential to occur in Project components with suitable vegetation within the known elevation range of the species. Focused surveys were negative for this species. Not expected to occur within Project components lacking suitable habitat and/or outside the known elevation range of the species.

Scientific Name	Common Name	Status (Federal/State/ CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline -In- Reservoir Alternative Terminus (San Vicente Pipeline - IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Astragalus deanei	Dean's milk-vetch	None/None/1B.1/ None	Chaparral, cismontane woodland, coastal scrub, riparian forest/perennial herb/Feb–May/246–2280	X	L	L	X	L	L	Ĺ	L	L	L	L	L	L	Low potential to occur within Project components with suitable habitat within the species' known elevation range. The most recent (since 1995) occurrences for this species occur with the Cleveland National Forest or Dehesa. Not expected to occur within Project components lacking suitable habitat or outside of the species' known elevation range.
Astragalus oocarpus	San Diego milk-vetch	None/None/1B.2/ None	Chaparral (openings), cismontane woodland/perennial herb/May–Aug/1001– 5000	Х	Х	X	Х	Х	Х	L	L	L	L	L	Х	X	Not expected to occur. The site is outside of the species' known elevation range.
Astragalus tener var. titi	coastal dunes milk- vetch	FE/CE/1B.1/ Covered, Narrow Endemic	Coastal bluff scrub (sandy), coastal dunes, coastal prairie (mesic); often vernally mesic areas/annual herb/Mar– May/3–164	Х	X	X	X	X	X	X	X	X	X	X	X	X	Not expected to occur. No suitable vegetation present and this species generally occurs along the coast.

Scientific Name	Common Name	Status (Federal/State/ CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline –In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Atriplex coulteri	Coulter's saltbush	None/None/1B.2/ None	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland; alkaline or clay/perennial herb/Mar–Oct/10–1509	X	L	L	L	L	L	L	L	L	L	X	X	L	Low potential to occur in Project components with suitable vegetation within the known elevation range of the species. Focused surveys were negative for this species. Not expected to occur within Project components lacking suitable habitat and/or outside the known elevation range of the species.
Atriplex pacifica	South Coast saltscale	None/None/1B.2/ None	Coastal bluff scrub, coastal dunes, coastal scrub, playas/annual herb/Mar–Oct/0–459	X	L	L	X	L		L	L	L	L	X	L	L	Low potential to occur in Project components with suitable vegetation within the known elevation range of the species. Focused surveys were negative for this species. Not expected to occur within Project components lacking suitable habitat and/or outside the known elevation range of the species.

Scientific Name	Common Name	Status (Federal/State/ CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline –In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Atriplex parishii	Parish's brittlescale	None/None/1B.1/ None	Chenopod scrub, playas, vernal pools; alkaline/annual herb/June–Oct/82–6234	Х	X	Х	X	L	X	Х	Х	Х	X	Х	X	L	Low potential to occur within Project components with vernal pools. Not expected to occur in other Project components due to lack of suitable vegetation.
Baccharis vanessae	Encinitas baccharis	FT/CE/1B.1/ Covered	Chaparral (maritime), cismontane woodland; sandstone/perennial deciduous shrub/Aug– Nov/197–2362	X	X	X	X	X	X	L	L	L	L	L	X	X	Not expected to occur. Perennial shrub would have been observed during surveys if present and all occurrences of this species are north of the project alignment (CDFW 2016).
Berberis nevinii	Nevin's barberry	FE/CE/1B.1/ Covered	Chaparral, cismontane woodland, coastal scrub, riparian scrub; sandy or gravelly/perennial evergreen shrub/Mar– June/230–2707	Х	L	L	X	L	L	L	L	L	L	L	L	L	Low potential to occur in areas with suitable vegetation and soils. Perennial shrub would have been observed during surveys if present.
Bergerocactus emoryi	golden- spined cereus	None/None/2B.2/ None	Closed-cone coniferous forest, chaparral, coastal scrub; sandy/perennial stem succulent/May– June/10–1296	Х	L	L	X	L	L	L	L	L	L	L	L	L	Low potential to occur in areas with suitable vegetation and soils. Perennial shrub would have been observed during surveys if present.

Scientific Name	Common Name	Status (Federal/State/ CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline –In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Bloomeria clevelandii	San Diego goldenstar	None/None/1B.1/ Covered	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay/perennial bulbiferous herb/Apr–May/164–1526	Х	L	L	L	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in Project components lacking suitable habitat.
Brodiaea filifolia	thread- leaved brodiaea	FT/CE/1B.1/ Covered	Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools; often clay/perennial bulbiferous herb/Mar–June/82–3675	X	L	L	L	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in Project components lacking suitable habitat.
Brodiaea orcuttii	Orcutt's brodiaea	None/None/1B.1/ Covered	Closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; mesic, clay, sometimes serpentinite/perennial bulbiferous herb/May–July/98–5551	X	L	L	L	L	L	L	L	L	L	L	L	D	Observed along the LFG Pipeline. Low potential to occur in most other Project components. Species would have been observed during surveys if present. Not expected to occur in Project components lacking suitable habitat.

DUDEK

M-9
February 2018

Scientific Name	Common Name	Status (Federal/State/ CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline –In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Calamagrostis koelerioides	Fire reedgrass	None/None/ None/Covered	Chaparral, meadows and seeps; slopes, dry hills, ridges/perennial grass/June–Aug/0–7546	X	X	X	X	X	X	L	L	L	L	L	L	L	Low potential to occur in components with suitable chaparral habitat; however, this species was not observed during focused surveys. Not expected to occur in Project components lacking chaparral.
Calandrinia breweri	Brewer's calandrinia	None/None/4.2/ None	Chaparral, coastal scrub; sandy or loamy, disturbed sites and burns/annual herb/Mar–June/33–4003	Х	L	L	X	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in Project components lacking suitable habitat.
California macrophylla	round- leaved filaree	None/None/1B.2/ None	Cismontane woodland, valley and foothill grassland; clay/annual herb/Mar–May/49–3937	X	L	L	L	L	L	L	L	L	L	L	X	L	Low potential to occur in Project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in Project components lacking suitable habitat.

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Calochortus dunnii	Dunn's mariposa lily	None/CR/1B.2/ Covered	Closed-cone coniferous forest, chaparral, valley and foothill grassland; gabbroic or metavolcanic, rocky/perennial bulbiferous herb/(Feb) Apr–June/607–6004	X	X	X	X	X	X	L	L	L	L	L	X	X	Low potential to occur along the NCPW Pipeline and Miramar Wastewater Treatment Plant Improvements area; not observed during focused surveys. Not expected to occur in Project components below the species' known elevation range.
Camissoniopsis lewisii	Lewis' evening- primrose	None/None/3/ None	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy or clay/annual herb/Mar— May (June)/0–984	Х	L	L	L	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable habitat. Species would have been observed during surveys if present.
Carex obispoensis	San Luis Obispo sedge	None/None/1B.2/ None	Closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland; often serpentinite seeps, sometimes gabbro; often on clay soils/perennial rhizomatous herb/Apr–June/33–2690	X	X	X	X	X	X	X	X	X	X	X	X	X	Not expected to occur. Only four locations known from San Diego County at two localities Sycuan Ecological Reserve and McGinty Mountain Ecological Reserve.

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Castilleja plagiotoma	Mojave paintbrush	None/None/4.3/ None	Great Basin scrub (alluvial), Joshua tree woodland, lower montane coniferous forest, pinyon and juniper woodland/perennial herb (hemiparasitic)/Apr– June/984–8202	Х	X	X	X	X	X	X	X	X	X	X	X	X	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Caulanthus heterophyllus	California mustard	None/None/None/ Covered	Coastal scrub, chaparral; dry, open, generally after fire, disturbance/annual herb/Mar–May/0–4593	Х	L	L	L	L	L	Х	L	L	L	L	L	L	Low potential to occur in Project components with suitable habitat. Species would have been observed during surveys if present.
Caulanthus simulans	Payson's jewelflower	None/None/4.2/ None	Chaparral, coastal scrub; sandy, granitic/annual herb/(Feb) Mar–May (June)/295–7218	X	L	L	X	L	L	L	L	L	L	L	L	L'	Low potential to occur within Project components with suitable habitat; however, focused surveys were negative. Not expected to occur in Project components lacking suitable habitat or outside of the species' known elevation range.

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Ceanothus cyaneus	Lakeside ceanothus	None/None/1B.2/ Covered	Closed-cone coniferous forest, chaparral/perennial evergreen shrub/Apr–June/771–2477	X	X	X	X	X	X	L	L	L	L	L	X	X	Low potential to occur in the Miramar Wastewater Treatment Plant Improvements project component. Not expected to occur to occur in other Project components, which are outside of the species' known elevation range.
Ceanothus otayensis	Otay Mountain ceanothus	None/None/1B.2/ None	Chaparral (metavolcanic or gabbroic)/perennial evergreen shrub/Jan– Apr/1969–3609	Х	X	Х	Х	X	Х	Х	Х	Х	Х	Х	X	Х	Not expected to occur. The site is outside of the species' known elevation range.
Ceanothus verrucosus	wart- stemmed ceanothus	None/None/2B.2/ Covered	Chaparral/perennial evergreen shrub/Dec– May/3–1247	X	₽Ū	X	X	X	X	L	L	L	L	L	D	D	Observed within the buffer around the MBC, Morena Pipelines, and along the LFG Pipeline. Low potential to occur in all other components with chaparral habitat where focused surveys were negative. Not expected to occur in Project components lacking chaparral.

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Centromadia parryi ssp. australis	southern tarplant	None/None/1B.1/ None	Marshes and swamps (margins), valley and foothill grassland (vernally mesic), vernal pools/annual herb/May–Nov/0–1575	X		L		L		L	L		L	L	X	L	Low potential to occur due to limited suitable vernally mesic habitat and because it was not observed during 2016 rare plant surveys. In addition, all occurrences of southern tarplant are north of the project site (CDFW 2016). Not expected to occur in Project components lacking suitable habitat.
Centromadia pungens ssp. laevis	smooth tarplant	None/None/1B.1/ None	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland; alkaline/annual herb/Apr–Sep/0–2100	Х	L	L	L	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in Project components lacking suitable habitat.
Chaenactis glabriuscula var. orcuttiana	Orcutt's pincushion	None/None/1B.1/ None	Coastal bluff scrub (sandy), coastal dunes/annual herb/Jan– Aug/0–328	Х	Х	X	X	Х	X	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. No suitable vegetation present. This species generally occurs along the coast.

Scientific Name Chamaebatia	Common Name southern	Status (Federal/State/ CRPR/MSCP) None/None/4.2/	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet) Chaparral (gabbroic or	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station) X	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station) X	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline –In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur Not expected to
australis	mountain misery	None	metavolcanic)/perennial evergreen shrub/Nov– May/984–3346														occur. The site is outside of the species' known elevation range.
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	FE/CE/1B.2/ Covered	Coastal dunes, marshes and swamps (coastal salt)/annual herb (hemiparasitic)/May– Oct/0–98	Х	X	X	X	Х	X	Х	Х	X	X	Х	Х	X	Not expected to occur. No suitable coastal dune or coastal salt marsh vegetation present.
Chorizanthe leptotheca	Peninsular spineflower	None/None/4.2/ None	Chaparral, coastal scrub, lower montane coniferous forest; alluvial fan, granitic/annual herb/May–Aug/984–6234	Х	X	X	X	X	X	L	L	L	L	L	X	X	Not expected to occur. The site is outside of the species' known elevation range.
Chorizanthe orcuttiana	Orcutt's spineflower	FE/CE/1B.1/ None	Closed-cone coniferous forest, chaparral (maritime), coastal scrub; sandy openings/annual herb/Mar–May/10–410	X	L	X	X	X	X	L	L	L	L	L	L	L	Low potential to occur within Project components with chaparral and coastal sage scrub and sandy soils. However, focused surveys for this species were negative. Not expected to occur within Project components lacking suitable sandy habitat.

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Chorizanthe polygonoides var. longispina	long-spined spineflower	None/None/1B.2/ None	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools; often clay/annual herb/Apr–July/98–5020	X	L	L	L	L	L	L	L	L	L	L	D	D	Observed within the buffer around the Metro Biosolids Center and along the LFG Pipeline. Low potential to occur in all other components that have chaparral, coastal scrub, grassland, or vernal pools with clay soils. Not expected to occur in Project components that lack such suitable habitat.
Cistanthe maritima	seaside cistanthe	None/None/4.2/ None	Coastal bluff scrub, coastal scrub, valley and foothill grassland; sandy/annual herb/(Feb) Mar–June (Aug)/16–984	X	L	X	X	X	X	L	L	L	L	L	X	X	Low potential to occur along the Morena Pipelines, which as suitable sandy coastal scrub, but focused surveys were negative. Not expected to occur in other Project components that are farther from the coast since this species is known to occur at locales with moist sea breezes (Reiser 2001).

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Clarkia delicata	delicate clarkia	None/None/1B.2/ None	Chaparral, cismontane woodland; often gabbroic/annual herb/Apr–June/771–3281	X	X	X	X	X	X	L	L	D	D	L	X	X	Observed within the buffer of the In-Reservoir Alternative Terminus and Marina Alternative Terminus. Low potential to occur within other Project components with suitable habitat; however, focused surveys for this species were negative. Not expected to occur in remaining Project components below the species' known elevation range.
Clinopodium chandleri	San Miguel savory	None/None/1B.2/ Covered	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland; rocky, gabbroic, or metavolcanic/perennial shrub/Mar–July/394–3527	X	L	L	L	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components that contain suitable habitat within the correct elevation range due to negative focused surveys due to limited suitable habitat and not observed during 2016 rare plant surveys. Not expected to occur in Project components that lack suitable habitat and/or that are outside the known elevation range for this species.

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Comarostaphyli s diversifolia ssp. diversifolia	summer holly	None/None/1B.2/ None	Chaparral, cismontane woodland/perennial evergreen shrub/Apr–June/98–2592	X	L	X	X	X	X	L	L	L	L	L		D	Observed along the LFG Pipeline. Low potential to occur in most Project components with chaparral or oak woodland because this shrub would have been observed during if present. Not expected to occur in components without suitable chaparral or oak woodland habitat.
Convolvulus simulans	small- flowered morning- glory	None/None/4.2/ None	Chaparral (openings), coastal scrub, valley and foothill grassland; clay, serpentinite seeps/annual herb/Mar– July/98–2297	Х	L	L	L	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in Project components lacking suitable habitat.
Cordylanthus rigidus ssp. brevibracteatus	short- bracted bird's-beak	None/None/4.3/ None	Chaparral, lower montane coniferous forest, pinyon and juniper woodland, upper montane coniferous forest; openings, granitic/annual herb (hemiparasitic)/July–Aug (Oct)/2001–8497	X	X	X	X	X	X	X	Х	X	X	X	X	Х	Not expected to occur. The site is outside of the species' known elevation range.

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Corethrogyne filaginifolia var. incana	San Diego sand aster	None/None/1B.1/ None	Coastal bluff scrub, chaparral, coastal scrub/perennial herb/June–Sep/10–377	X		L	X	L	L	L	L	X		X	L	L	Low potential to occur in Project components with suitable vegetation and soils and within the elevation range of this species. Focused surveys for this species were negative. Not expected to occur in Project components lacking suitable habitat and/or outside the known elevation range for this species.
Corethrogyne filaginifolia var. linifolia	Del Mar Mesa sand aster	None/None/1B.1/ Covered	Coastal bluff scrub, chaparral (maritime, openings), coastal scrub; sandy/perennial herb/May–Sep/49–492	X	L	X	X	L	L	L	L	L	L	L	L	L	Low potential to occur. Coastal sage scrub present in many components, but Del Mar Mesa sand aster occurrences are all north of the proposed project and focused surveys were negative.

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Cryptantha wigginsii	Wiggins' cryptantha	None/None/1B.2/ None	Coastal scrub; often clay/annual herb/Feb–June/66–902	X	L	L	X	L	L	L	L	L	L	L		L	Low potential to occur in Project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in Project components lacking suitable habitat.
Cylindropuntia californica var. californica	snake cholla	None/None/1B.1/ Covered, Narrow Endemic	Chaparral, coastal scrub/perennial stem succulent/Apr–May/98– 492	Х	L	L	X	L	L	L	L	L	L	L		L	Low potential to occur in Project components with suitable chaparral and/or coastal scrub. Perennial succulent would have been observed during surveys if present.
Deinandra conjugens	Otay tarplant	FT/CE/1B.1/ Covered, Narrow Endemic	Coastal scrub, valley and foothill grassland; clay/annual herb/May–June/82–984	X	L	L	L	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in Project components lacking suitable habitat.

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Deinandra floribunda	Tecate tarplant	None/None/1B.2/ None	Chaparral, coastal scrub/annual herb/Aug- Oct/230-4003	Х	L	L	X	L	L	L	L	L	L	L	_	L	Low potential to occur within Project components with suitable habitat; however, focused surveys were negative. Not expected to occur in Project components lacking suitable habitat or outside of the species' known elevation range.
Deinandra paniculata	paniculate tarplant	None/None/4.2/ None	Coastal scrub, valley and foothill grassland, vernal pools; usually vernally mesic, sometimes sandy/annual herb/Apr–Nov/82–3084	X	L	L	L	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in Project components lacking suitable habitat.
Dichondra occidentalis	western dichondra	None/None/4.2/ Narrow Endemic	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/perennial rhizomatous herb/(Jan) Mar–July/164–1640	X	L	L	L	L	L	L	L	L	L	L	L	L	Low potential to occur in most Project components due to negative focused surveys. Not expected to occur in Project components lacking suitable habitat.

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Dicranostegia orcuttiana	Orcutt's bird's-beak	None/None/ 2B.1/Covered	Coastal scrub/annual herb (hemiparasitic)/(Mar) Apr–July (Sep)/33–1148	Х	L	L	X	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable coastal scrub. Focused surveys for this species were negative. Not expected to occur in Project components lacking suitable coastal scrub.
Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	None/None/1B.1/ None	Coastal bluff scrub, chaparral, coastal scrub, valley and foothill grassland; rocky, often clay or serpentinite/perennial herb/Apr–June/16–1476	Х	L	L	L	L	L	L	L	L	L	L	L	L	Low potential to occur within components with suitable habitat. Species would have been observed during surveys if present. Not expected to occur in Project components with no suitable habitat.
Dudleya brevifolia	short-leaved dudleya	None/CE/1B.1/ Covered, Narrow Endemic	Chaparral (maritime, openings), coastal scrub; Torrey sandstone/perennial herb/Apr–May/98–820	Х	X	Х	X	X	X	L	L	L	L	L	X	X	Not expected to occur. No Torrey sandtone soils within the proposed project.
Dudleya variegata	variegated dudleya	None/None/1B.2/ Covered, Narrow Endemic	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools; clay/perennial herb/Apr–June/10–1903	X	L	L	L	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in Project components lacking suitable habitat.

Scientific Name	Common Name	Status (Federal/State/ CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline -In- Reservoir Alternative Terminus (San Vicente Pipeline - IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Dudleya viscida	sticky dudleya	None/None/1B.2/ Covered	Coastal bluff scrub, chaparral, cismontane woodland, coastal scrub; rocky/perennial herb/May–June/33–1804	X	L	L	X	L		L	L	L	L	L	L	L	Low potential to occur within components with suitable habitat. Species would have been observed during surveys if present. Not expected to occur in Project components with no suitable habitat.
Ericameria palmeri var. palmeri	Palmer's goldenbush	None/None/1B.1/ Covered	Chaparral, coastal scrub; mesic/perennial evergreen shrub/(July) Sep–Nov/98–1969	Х	L	L	X	L	L	L	L	L	L	L	L	L	Low potential to occur within components with suitable habitat. Species would have been observed during surveys if present. Not expected to occur in Project components with no suitable habitat.
Eriogonum evanidum	vanishing wild buckwheat	None/None/1B.1/ None	Chaparral, cismontane woodland, lower montane coniferous forest, pinyon and juniper woodland; sandy or gravelly/annual herb/July–Oct/3609–7300	Х	Х	X	X	Х	X	X	Х	X	Х	Х	X	X	Not expected to occur. The site is outside of the species' known elevation range.

Scientific Name	Common Name	Status (Federal/State/ CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline –In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Eryngium aristulatum var. parishii	San Diego button-celery	FE/CE/1B.1/ Covered	Coastal scrub, valley and foothill grassland, vernal pools; mesic/annual / perennial herb/Apr– June/66–2034	X	L	L			L	L	X	X	X	X	L	L	Low potential to occur in Project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in Project components lacking suitable habitat.
Erysimum ammophilum	sand-loving wallflower	None/None/1B.2/ Covered	Chaparral (maritime), coastal dunes, coastal scrub; sandy, openings/perennial herb/Feb–June/0–197	X	L	X	X	X	X	L	L	L	L	L	X	X	Low potential to occur along the Morena Pipelines due to suitable sandy chaparral and coastal scrub, but lack of observations during focused surveys. Not expected to occur at the Morena Pump Station due to lack of suitable habitat. Not expected to occur in the remaining Project components because they are above the species' known elevation range.
Euphorbia abramsiana	Abrams' spurge	None/None/2B.2/ None	Mojavean desert scrub, Sonoran desert scrub; sandy/annual herb/Aug– Nov/-16–3002	X	Х	X	X	X	Х	Х	Х	X	X	X	X	Х	Not expected to occur. No suitable desert scrub vegetation present.

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Euphorbia misera	cliff spurge	None/None/2B.2/ None	Coastal bluff scrub, coastal scrub, Mojavean desert scrub; rocky/perennial shrub/Dec–Aug (Oct)/33–1640	Х	L	L	X	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation and soils. Perennial shrub would likely have been observed if present. Not expected to occur in Project components lacking suitable habitat.
Ferocactus viridescens	San Diego barrel cactus	None/None/2B.1/ Covered	Chaparral, coastal scrub, valley and foothill grassland, vernal pools/perennial stem succulent/May–June/10–1476	X	L	L	L	L	L	L	D	L	L	L	L	L	Observed along the San Vicente Pipeline. Low potential to occur in all other components due to lack of observations during focused surveys or not expected to occur due to lack of suitable habitat.
Frankenia palmeri	Palmer's frankenia	None/None/2B.1/ None	Coastal dunes, marshes and swamps (coastal salt), playas/perennial herb/May–July/0–33	X	X	X	Х	X	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State/ CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline –In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Fraxinus parryi	chaparral ash	None/None/2B.2/ None	Chaparral/perennial shrub/Mar–May/699– 2034	X	L	L	X	L	L	L	L	L	L	L	L	L	Low potential to occur within Project components with suitable chaparral vegetation; however, focused surveys were negative. Not expected to occur in Project components lacking suitable habitat or outside of the species' known elevation range.
Fremontodendr on mexicanum	Mexican flannelbush	FE/CR/1B.1/ None	Closed-cone coniferous forest, chaparral, cismontane woodland; gabbroic, metavolcanic, or serpentinite/perennial evergreen shrub/Mar–June/33–2349	X	L	X	X	X	X	L	L	L	L	L	L	L	Low potential to occur within components that have chaparral vegetation. Not expected to occur in remaining Project components. No suitable vegetation present.
Galium proliferum	desert bedstraw	None/None/2B.2/ None	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland; rocky, carbonate/annual herb/Mar–June/3904– 5348	Х	X	X	X	X	X	X	X	X	X	X	X	X	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State/ CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline –In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Geothallus tuberosus	Campbell's liverwort	None/None/1B.1/ None	Coastal scrub (mesic), vernal pools; soil/ephemeral liverwort/N.A./33–1969	X	L		X	L		L	L	L	L	L	L	L	Low potential to occur in Project components with suitable coastal scrub or vernal pools. Focused surveys were negative for this species. Not expected to occur in Project components lacking suitable habitat.
Githopsis diffusa ssp. filicaulis	Mission Canyon bluecup	None/None/3.1/ None	Chaparral (mesic, disturbed areas)/annual herb/Apr–June/1476– 2297	Х	X	X	X	X	X	Х	Х	X	X	X	Х	Х	Not expected to occur. The site is outside of the species' known elevation range.
Grindelia hallii	San Diego gumplant	None/None/1B.2/ None	Chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland/perennial herb/May–Oct/607–5725	X	X	X	X	X	X	L	L	L	L	L	X	X	Low potential to occur along the NCPW Pipeline and within the Miramar Wastewater Treatment Plant Improvements where there is suitable chaparral or grassland habitat; however, focused surveys for this species were negative. Not expected to occur in the remaining Project components because they are below the species' known elevation range.

Scientific Name Harpagonella	Common Name Palmer's	Status (Federal/State/ CRPR/MSCP) None/None/4.2/	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet) Chaparral, coastal scrub,	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline –In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur Low potential to
palmeri	grapplinghook	None	valley and foothill grassland; clay/annual herb/Mar–May/66–3133	•		_	_	_	_	_			_			ı	occur in Project components with suitable vegetation and soils. Focused surveys for this species were negative. Not expected to occur in Project components lacking suitable habitat.
Hazardia orcuttii	Orcutt's hazardia	FC/CT/1B.1/ None	Chaparral (maritime), coastal scrub; often clay/perennial evergreen shrub/Aug-Oct/262-279	X	L	X	X	X	X	L	L	L	L	L	X	L	Low potential to occur along the Morena Pipelines and LFG Pipeline due to suitable sandy chaparral and coastal scrub, but lack of observations during focused surveys. Not expected to occur in the remaining Project components because they are outside the species' known elevation range.
Hesperocyparis forbesii	Tecate cypress	None/None/1B.1/ Covered	Closed-cone coniferous forest, chaparral; clay, gabbroic or metavolcanic/ perennial evergreen tree/N.A./262–4921	Х	Х	Х	X	Х	Х	L	L	L	L	L	X	Х	Not expected to occur. Perennial tree would have been observed during surveys if present.

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Heterotheca sessiliflora ssp. sessiliflora	beach goldenaster	None/None/1B.1/ None	Chaparral (coastal), coastal dunes, coastal scrub/perennial herb/Mar–Dec/0–4019	Х	L	X	X	X	X	L	L	L	L	L	X	X	Low potential to occur along the Morena Pipelines due to lack of observations during focused surveys. Not expected to occur within Project components farther from the coast.
Holocarpha virgata ssp. elongata	graceful tarplant	None/None/4.2/ None	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/annual herb/May–Nov/197–3609	X	L	D	L	D	L	L	L	L	L	L	D	D	Observed within the buffer around the NCWRP, North City Pure Water Facility, MBC, and the LFG Pipeline. Low potential to occur in other Project components due to negative focused surveys. Not expected to occur in Project components that lack suitable habitat.
Hordeum intercedens	vernal barley	None/None/3.2/ None	Coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), vernal pools/annual herb/Mar–June/16–3281	Х	L	L	L	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation. Focused surveys for this species were negative. Not expected to occur in Project components lacking suitable habitat.

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Horkelia truncata	Ramona horkelia	None/None/1B.3/ None	Chaparral, cismontane woodland; clay, gabbroic/perennial herb/May–June/1312– 4265	X	X	X	X	X	X	X	X	X	X	X	X	X	Not expected to occur. The site is outside of the species' known elevation range.
Isocoma menziesii var. decumbens	decumbent goldenbush	None/None/1B.2/ None	Chaparral, coastal scrub (sandy, often in disturbed areas)/perennial shrub/Apr–Nov/33–443	X	L	L	X	L	L	L	L	L	L	L	D	L	Observed within the buffer around the MBC. Low potential to occur in all other components. Perennial shrub would likely have been observed during surveys if present. Not expected to occur in Project components lacking suitable habitat.
Iva hayesiana	San Diego marsh-elder	None/None/2B.2/ None	Marshes and swamps, playas/perennial herb/Apr–Oct/33–1640	X	<u>↓D</u>	X	X	X	X		L	L		L	X	L	Observed within the buffer around the Morena Pipelines. Low potential to occur within Project components with suitable freshwater marsh habitat where this perennial herb would likely have been observed during surveys if present. Although a portion of the NCPW Pipeline contains areas of freshwater marsh that were not surveyed, the area is

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																	development. Not expected to occur with the other components.
Juglans californica	Southern California black walnut	None/None/4.2/ None	Chaparral, cismontane woodland, coastal scrub; alluvial/perennial deciduous tree/Mar–Aug/164–2953	X	L	X	X	X	X	D	L	L	L	L	X	X	Observed within the San Vicente Pipeline 100-foot buffer, 6 individuals observed adjacent to West Hills Pkwy. Not expected to occur in other Project components except the Morena Pipelines where comprehensive surveys were done. Perennial tree would have been observed during surveys if present.
Juncus acutus ssp. leopoldii	southwester n spiny rush	None/None/4.2/ None	Coastal dunes (mesic), meadows and seeps (alkaline seeps), marshes and swamps (coastal salt)/perennial rhizomatous herb/(Mar) May–June/10–2953	¥₫	X	X	X	X	X	X	X	X	X	X	X	X	Observed within the San Diego River floodplain south of the Morena Pump Station. Not expected to occur. This conspicuous perennial species would have been observed during surveys if present.

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Lasthenia glabrata ssp. coulteri	Coulter's goldfields	None/None/1B.1/ None	Marshes and swamps (coastal salt), playas, vernal pools/annual herb/Feb–June/3–4003	X	X	X	X	_	X	L	L	L	L	L	X	L	Low potential to occur within vernal pools on site; focused surveys were negative. Not expected to occur in Project components without vernal pools.
Lathyrus splendens	pride-of- California	None/None/4.3/ None	Chaparral/perennial herb/Mar–June/656– 5003	X	X	X	X	X	X	L	L	L	L	L	L	L	Low potential to occur within Project components with suitable chaparral vegetation; however, focused surveys were negative. Not expected to occur in Project components lacking suitable habitat or outside of the species' known elevation range.
Lepechinia cardiophylla	heart-leaved pitcher sage	None/None/1B.2/ Covered	Closed-cone coniferous forest, chaparral, cismontane woodland/perennial shrub/Apr–July/1706– 4495	Х	Х	X	X	X	Х	Х	X	X	Х	X	X	X	Not expected to occur. The site is outside of the species' known elevation range.
Lepechinia ganderi	Gander's pitcher sage	None/None/1B.3/ Covered	Closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland; gabbroic or metavolcanic/perennial shrub/June–July/1001–3297	X	X	X	X	Х	X	L	L	L	Ĺ	L	Х	X	Not expected to occur. The site is outside of the species' known elevation range.

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Lepidium virginicum var. robinsonii	Robinson's pepper-grass	None/None/4.3/ None	Chaparral, coastal scrub/annual herb/Jan–July/3–2904	X	L	L	X	L	L	D	D	L	D	L	D	D	Observed within the buffer around the San Vicente Pipeline, Marina Alternative Terminus, Tunnel Alternative Terminus, MBC, and LFG Pipeline. Low potential to occur in other Project components due to lack of observations during focused surveys. Not expected to occur in Project components lacking suitable habitat.
Leptosiphon grandiflorus	large- flowered leptosiphon	None/None/4.2/ None	Coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal dunes, coastal prairie, coastal scrub, valley and foothill grassland; usually sandy/annual herb/Apr–Aug/16–4003	X	L	X	X	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation and soils; focused surveys were negative. Not expected to occur in Project components lacking suitable vegetation and sandy soils.

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Leptosyne maritima	sea dahlia	None/None/2B.2/ None	Coastal bluff scrub, coastal scrub/perennial herb/Mar-May/16-492	Х	Х	X	X	X	X	L	L	L	L	L	X	Х	Not expected to occur. Species prefers sandstone cliffs near the ocean, which do not occur within the project site and focused surveys were negative for this species.
Lycium californicum	California box-thorn	None/None/4.2/ None	Coastal bluff scrub, coastal scrub/perennial shrub/(Dec) Mar– Aug/16–492	X	L	L	X	L	L	L	L	L	L	L	L	L	Low potential to occur. Perennial shrub would have been observed during surveys if present. Not expected to occur within Project components lacking suitable habitat.
Microseris douglasii ssp. platycarpha	small- flowered microseris	None/None/4.2/ None	Cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools; clay/annual herb/Mar–May/49–3510	X	L	L	L	L	L	L	L	L	L	L	L	<u>FD</u>	Observed along the LFG Pipeline. Low potential to occur in Project components with suitable vegetation and soils; focused surveys were negative. Not expected to occur in Project components lacking suitable vegetation and sandy soils.
Mimulus aurantiacus var. aridus	low bush monkeyflower	None/None/4.3/ None	Chaparral (rocky), Sonoran desert scrub/perennial evergreen shrub/Apr– July/2461–3937	X	X	X	X	Х	X	Х	Х	X	X	Х	Х	X	Not expected to occur. The site is outside of the species' known elevation range.

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Mimulus clevelandii	Cleveland's bush monkeyflower	None/None/4.2/ Covered	Chaparral, cismontane woodland, lower montane coniferous forest; gabbroic, often in disturbed areas, openings, rocky/perennial rhizomatous herb/Apr–July/1476–6562	X	X	X	X	Х	X	Х	X	Х	X	Х	Х	X	Not expected to occur. The site is outside of the species' known elevation range.
Mimulus diffusus	Palomar monkeyflower	None/None/4.3/ None	Chaparral, lower montane coniferous forest; sandy or gravelly/annual herb/Apr–June/4003– 6004	Х	Х	Х	Х	Х	X	X	Х	Х	Х	Х	Х	Х	Not expected to occur. The site is outside of the species' known elevation range.
Mobergia calculiformis	light gray lichen	None/None/3/ None	Coastal scrub (?); on rocks/crustose lichen (saxicolous)/N.A./33–33	X	L	X	X	X	X		L				X	X	Low potential to occur along the Morena Pipelines. There is only one historical occurrence within the City of San Diego immediately south of Balboa Park (Consortium of North American Lichen Herbaria). The project site is approximately 4 miles north of Balboa Park. Not expected to occur in other Project components due to lack of suitable coastal scrub habitat and/or elevations above the species' known elevation range.

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Monardella hypoleuca ssp. lanata	felt-leaved monardella	None/None/1B.2/ Covered	Chaparral, cismontane woodland/perennial rhizomatous herb/June– Aug/984–5167	X	Х	X	Х	Х	Х	L	L	L	L	L	Х	X	Not expected to occur. The site is outside of the species' known elevation range.
Monardella viminea	willowy monardella	FE/CE/1B.1/ Covered	Chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland; alluvial ephemeral washes/perennial herb/June–Aug/164–738	Х	X	X	X	X	X	L	L	L	L	L	X	X	Not expected to occur. No suitable alluvial ephemeral washes present.
Mucronea californica	California spineflower	None/None/4.2/ None	Chaparral, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy/annual herb/Mar–July (Aug)/0–4593	X	L	X	L	X	X	L	L	L	L	L	X	X	Low potential to occur along the Morena Pipelines due to suitable vegetation and sandy soils. However, this species was not observed during focused surveys. Not expected to occur in Project components lacking suitable habitat, including sandy soils.
Myosurus minimus ssp. apus	little mousetail	None/None/3.1/ None	Valley and foothill grassland, vernal pools (alkaline)/annual herb/Mar–June/66–2100	X	X	L	L	L	L	L	X	X	X	X	L	L	Low potential to occur in the project site due to limited suitable habitat and not observed during 2016 rare plant surveys. Historical occurrences are known from three localities, San Onofre, Camp Pendleton and Otay Mesa. Not expected to occur within Project

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Nama stenocarpa	mud nama	None/None/2B.2/ None	Marshes and swamps (lake margins, riverbanks)/annual / perennial herb/Jan– July/16–1640	X	L	X	X	X	X	L	L	L	L	L	X	L	lacking suitable vegetation. Low potential to occur in Project components with marshes and/or riverbanks with suitable habitat. Not expected to occur in Project components lacking suitable habitat.
Navarretia fossalis	spreading navarretia	FT/None/1B.1/ Covered, Narrow Endemic	Chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, vernal pools/annual herb/Apr–June/98–2149	X	L	X	X	L	L	L	X	X	X	L	X	L	Low potential to occur in Project components with suitable vegetation and clay soils. Closest occurrence is within the MCAS Miramar, east of the Miramar Landfill and north SR-52. Not expected to occur within Project components lacking suitable habitat.
Navarretia prostrata	prostrate vernal pool navarretia	None/None/1B.1/ None	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools; mesic/annual herb/Apr– July/10–3970	X	L	L	L	L	L	L	X	X	X	L	L	L	Low potential to occur. Species would have been observed during surveys if present. Historical occurrences are known from Kearny Mesa off of Kearny Villa Road but not with

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																	the project site. Not expected to occur within Project components lacking suitable vegetation.
Nemacaulis denudata var. denudata	coast woolly- heads	None/None/1B.2/ None	Coastal dunes/annual herb/Apr–Sep/0–328	X	X	Х	X	X	X	X	X	X	X	X	X	X	Not expected to occur. No suitable coastal dune habitat present.
Nemacaulis denudata var. gracilis	slender cottonheads	None/None/2B.2/ None	Coastal dunes, desert dunes, Sonoran desert scrub/annual herb/(Mar) Apr–May/-164–1312	X	X	X	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. No suitable vegetation present.
Nolina interrata	Dehesa nolina	None/CE/1B.1/ Covered	Chaparral (gabbroic, metavolcanic, or serpentinite)/perennial herb/June–July/607– 2805	X	X	X	X	X	X	L	L	L	L	L	X	X	Not expected to occur. Limited suitable gabbroic, metavolcanic, or serpentinite chaparral present and this perennial herb would have been observed during surveys if present.
Ophioglossum californicum	California adder's- tongue	None/None/4.2/ None	Chaparral, valley and foothill grassland, vernal pools (margins); mesic/perennial rhizomatous herb/(Dec) Jan–June/197–1722	X	X	L	L	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation. Focused surveys for this species were negative. Not expected to occur within Project components lacking suitable habitat.

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Orcuttia californica	California Orcutt grass	FE/CE/1B.1/ Covered, Narrow Endemic	Vernal pools/annual herb/Apr–Aug/49–2165	X	X	X	X	L	X	L	L	L	L	L	X	L	Low potential to occur at the North City Pure Water Facility and along the LFG Pipeline where vernal pools are present, but the species was not observed during focused surveys. Not expected to occur within Project components lacking suitable vernal pool habitat.
Orobanche parishii ssp. brachyloba	short-lobed broomrape	None/None/4.2/ None	Coastal bluff scrub, coastal dunes, coastal scrub; sandy/perennial herb (parasitic)/Apr– Oct/10–1001	X	L	X	X	X	X	L	L	L	L	L	X	X	Low potential to occur along the Morena Pipelines due to suitable vegetation and sandy soils. However, this species was not observed during focused surveys. Not expected to occur in Project components lacking suitable habitat, including sandy soils.
Packera ganderi	Gander's ragwort	None/CR/1B.2/ Covered	Chaparral (burns, gabbroic outcrops)/perennial herb/Apr–June/1312–3937	Х	X	Х	Х	X	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. The site is outside of the species' known elevation range.

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Pentachaeta aurea ssp. aurea	golden- rayed pentachaeta	None/None/4.2/ None	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, valley and foothill grassland/annual herb/Mar–July/262–6070	Х	L	L	L	L	L	L	L	L	L	L		D	Observed along the LFG Pipeline. Low potential to occur in all other components with negative survey results. Not expected to occur in Project components lacking suitable habitat.
Phacelia ramosissima var. austrolitoralis	south coast branching phacelia	None/None/3.2/ None	Chaparral, coastal dunes, coastal scrub, marshes and swamps (coastal salt); sandy, sometimes rocky/perennial herb/Mar–Aug/16–984	Х	L	L	X	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation. Focused surveys for this species were negative. Not expected to occur within Project components lacking suitable habitat.
Phacelia stellaris	Brand's star phacelia	FC/None/1B.1/ None	Coastal dunes, coastal scrub/annual herb/Mar– June/3–1312	X	L	L	X	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation. Focused surveys for this species were negative. Not expected to occur within Project components lacking suitable habitat.

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Pickeringia montana var. tomentosa	woolly chaparral- pea	None/None/4.3/ None	Chaparral; gabbroic, granitic, clay/evergreen shrub/May-Aug/0-5577	X	L	L	X	L	L	L	L	L	L	L	L	L	Low potential to occur within Project components with suitable chaparral vegetation; however, focused surveys were negative. Not expected to occur in Project components lacking suitable habitat.
Pinus torreyana ssp. torreyana	Torrey pine	None/None/1B.2/ Covered	Closed-cone coniferous forest, chaparral; sandstone/perennial evergreen tree/N.A./246– 525	X	X	X	X	X	X	L	L	L	L	L	X	X	Not expected to occur. Perennial tree would have been observed during surveys if present. Torrey pines were observed within the San Vicente Reservoir study area; however, trees were planted and not native occurrences.
Piperia cooperi	chaparral rein orchid	None/None/4.2/ None	Chaparral, cismontane woodland, valley and foothill grassland/perennial herb/Mar–June/49–5200	X	L	L	L	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation. Focused surveys for this species were negative. Not expected to occur within Project components lacking suitable habitat.

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Pogogyne abramsii	San Diego mesa mint	FE/CE/1B.1/ Covered, Narrow Endemic	Vernal pools/annual herb/Mar–July/295–656	X	X	X	X	L	X	L	L	L	L	L	X	L	Low potential to occur at the North City Pure Water Facility and along the LFG Pipeline where vernal pools are present, but the species was not observed during focused surveys. Not expected to occur within Project components lacking suitable vernal pool habitat.
Pogogyne nudiuscula	Otay Mesa mint	FE/CE/1B.1/ Covered, Narrow Endemic	Vernal pools/annual herb/May–July/295–820	Х	X	X	X	L	X	L	X	X	X	X	X	L	Low potential to occur at the North City Pure Water Facility and along the LFG Pipeline where vernal pools are present, but the species was not observed during focused surveys. Not expected to occur within Project components lacking suitable vernal pool habitat.

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Polygala cornuta var. fishiae	Fish's milkwort	None/None/4.3/ None	Chaparral, cismontane woodland, riparian woodland/perennial deciduous shrub/May– Aug/328–3281	X	L	X	X	X	X	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable habitat, but this perennial deciduous shrub would likely have been observed during surveys if present. Not expected to occur in Project components lacking suitable habitat or outside the species' known elevation range.'
Pseudognaphal ium leucocephalum	white rabbit-tobacco	None/None/2B.2/ None	Chaparral, cismontane woodland, coastal scrub, riparian woodland; sandy, gravelly/perennial herb/(July) Aug–Nov (Dec)/0–6890	X	L	L	X	L	L	D	L	D	D	L	L	L	Observed within the 100-foot buffer around the San Vicente Pipeline, 1 individual was observed south of San Vicente Reservoir (within buffer of San Vicente Pipeline-In-Reservoir Alternative Terminus), and also within Marina Alternative Terminus buffer. Low potential to occur in Project components with suitable vegetation. Focused surveys for this species were negative. Not expected to

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																	occur within Project components lacking suitable habitat.
Quercus cedrosensis	Cedros Island oak	None/None/2B.2/ None	Closed-cone coniferous forest, chaparral, coastal scrub/perennial evergreen tree/Apr– May/837–3150	X	X	X	X	X	X	L	L	L	L	L	X	X	Not expected to occur. The site is outside of the species' known elevation range.
Quercus dumosa	Nuttall's scrub oak	None/None/1B.1/ None	Closed-cone coniferous forest, chaparral, coastal scrub; sandy, clay loam/perennial evergreen shrub/Feb–Apr (Aug)/49–1312	X	L	₽	X	L	L	L	L	L	L	L	D	₽Ū	Observed within the buffer around the MBC. NCWRP, and the LFG Pipeline. Low potential to occur in all other components because this evergreen shrub would likely have been observed during surveys if present. Not expected to occur within Project components lacking suitable habitat.
Quercus engelmannii	Engelmann oak	None/None/4.2/ None	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland/perennial deciduous tree/Mar–June/164–4265	Х	X	X	X	X	Х	L	L	L	L	L	Х	X	Not expected to occur. Perennial tree would have been observed during surveys if present.
Ribes canthariforme	Moreno currant	None/None/1B.3/ None	Chaparral, riparian scrub/perennial deciduous shrub/Feb– Apr/1115–3937	Х	Х	Х	X	Х	Х	Х	Х	X	X	Х	Х	Х	Not expected to occur. The site is outside of the species' known elevation range.

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Romneya coulteri	Coulter's matilija poppy	None/None/4.2/ None	Chaparral, coastal scrub; often in burns/perennial rhizomatous herb/Mar–July/66–3937	X		L	X	L	L	L	L	L	L		L	L	Low potential to occur within Project components with suitable habitat; however, focused surveys were negative. Not expected to occur in Project components lacking suitable habitat.
Rosa minutifolia	small-leaved rose	None/CE/2B.1/ Covered	Chaparral, coastal scrub/perennial deciduous shrub/Jan– June/492–525	X	X	X	X	X	X	L	L		L	L	X	X	Low potential to occur in components at higher elevation with suitable chaparral or coastal scrub habitat. However, perennial shrub would likely have been observed during surveys if present. Not expected to occur in Project components below the species' known elevation range.

DUDEK

M-45

M-45

Pebruary 2018

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Salvia munzii	Munz's sage	None/None/2B.2/ None	Chaparral, coastal scrub/perennial evergreen shrub/Feb–Apr/377–3494	X		L	X	L	L	L	L	L		L	L	L	Low potential to occur in most Project components because this shrub would likely have been observed during surveys if present. Not expected to occur within Project components lacking suitable habitat.
Selaginella cinerascens	ashy spike- moss	None/None/4.1/ Covered	Chaparral, coastal scrub/perennial rhizomatous herb/N.A./66–2100	X	L	D	X	<u>+D</u>	L	D	L	L	D	L	D	D	Observed within the buffer around the NCPWF, San Vicente Pipeline, Marina Alternative Terminus, MBC and NCWRP, and the LFG Pipeline. Low potential to occur in all other components due to lack of observations during focused surveys. Not expected to occur within Project components lacking suitable vegetation.

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Senecio aphanactis	chaparral ragwort	None/None/2B.2/ None	Chaparral, cismontane woodland, coastal scrub; sometimes alkaline/annual herb/Jan–Apr/49–2625	X	L	L	X	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation and soils; focused surveys were negative. Not expected to occur in Project components lacking suitable vegetation and sandy soils.
Sibaropsis hammittii	Hammitt's clay-cress	None/None/1B.2/ None	Chaparral (openings), valley and foothill grassland; clay/annual herb/Mar–Apr/2362– 3494	Х	X	X	X	X	X	X	X	Х	X	X	X	X	Not expected to occur. The site is outside of the species' known elevation range.
Solanum xanti	Purple nightshade	None/None/ None/Covered	Coastal scrub, chaparral, cismontane woodland, lower montane coniferous forest/perennial herb / perennial shrub/June– July/0–8858	Х	L	L	X	L	L	L	L	L	L	L	L	L	Low potential to occur in Project components with suitable vegetation and soils; focused surveys were negative. Not expected to occur in Project components lacking suitable vegetation and sandy soils.

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Sphaerocarpos drewei	bottle liverwort	None/None/1B.1/ None	Chaparral, coastal scrub; openings, soil/ephemeral liverwort/N.A./295–1969	X		L	X	L	L	X	X	X	X	X	L	L	Low potential to occur in Project components with suitable vegetation and soils within the elevation range of the species; focused surveys were negative. Not expected to occur in Project components lacking suitable vegetation and sandy soils.
Stemodia durantifolia	purple stemodia	None/None/2B.1/ None	Sonoran desert scrub (often mesic, sandy)/perennial herb/Jan–Dec/591–984	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. No suitable desert scrub habitat present.
Stipa diegoensis	San Diego County needle grass	None/None/4.2/ None	Chaparral, coastal scrub; rocky, often mesic/perennial herb/Feb–June/33–2625	X	L	L	X	L	L	L	L	L	L	L	L	L	Low potential to occur. Species would have been observed during surveys if present. Not expected to occur in Project components lacking suitable vegetation.
Streptanthus bernardinus	Laguna Mountains jewelflower	None/None/4.3/ None	Chaparral, lower montane coniferous forest/perennial herb/May–Aug/2198– 8202	X	Х	Х	X	Х	Х	Х	Х	Х	Х	Х	Х	X	Not expected to occur. The site is outside of the species' known elevation range.

Scientific Name	Common Name	Status (Federal/State/ CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline –In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Stylocline citroleum	oil neststraw	None/None/1B.1/ None	Chenopod scrub, coastal scrub, valley and foothill grassland; clay/annual herb/Mar–Apr/164–1312	X	L	L	L	L	L	X	X	X	X	X		L	Low potential to occur. Species would have been observed during surveys if present. Not expected to occur in Project components lacking suitable vegetation.
Suaeda esteroa	estuary seablite	None/None/1B.2/ None	Marshes and swamps (coastal salt)/perennial herb/May–Oct (Jan)/0– 16	Х	X	Х	X	X	X	X	X	X	Х	X	Х	X	Not expected to occur. No suitable coastal salt marsh present.
Suaeda taxifolia	woolly seablite	None/None/4.2/ None	Coastal bluff scrub, coastal dunes, marshes and swamps (margins of coastal salt)/perennial evergreen shrub/Jan– Dec/0–164	Х	Х	Х	Х	Х	Х	X	Х	X	Х	Х	Х	X	Not expected to occur. No suitable coastal habitat present.
Tetracoccus dioicus	Parry's tetracoccus	None/None/1B.2/ Covered	Chaparral, coastal scrub/perennial deciduous shrub/Apr– May/541–3281	X	X	X	X	X	X	L	L	L	L	L	X	X	Low potential to occur in components at higher elevation with suitable chaparral or coastal scrub habitat. However, perennial shrub would likely have been observed during surveys if present. Not expected to occur in Project components below the species' known elevation range.

Scientific Name	Common Name	Status (Federal/State/ CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline –In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Texosporium sancti-jacobi	woven- spored lichen	None/None/3/ None	Chaparral (openings); on soil, small mammal pellets, dead twigs, and on Selaginella spp./crustose lichen (terricolous)/N.A./951– 2165	Х	X	X	X	Х	X	L	L	L	L	L	X	X	Not expected to occur. The site is outside of the species' known elevation range.
Triquetrella californica	coastal triquetrella	None/None/1B.2/ None	Coastal bluff scrub, coastal scrub; soil/moss/N.A./33–328	X	L	L	X	L	L	L	L	L	L	L	X	L	Low potential to occur along the Morena Pipelines. Not expected to occur in other Project components farther from the coast. Known in California from fewer than ten small coastal occurrences.
Viguiera laciniata	San Diego County viguiera	None/None/4.2/ None	Chaparral, coastal scrub/perennial shrub/Feb–June (Aug)/197–2461	X	L	D	X	L	L	D	L	D	D	D	L	D	Observed within the buffer around the San Vicente Pipeline, In-Reservoir Alternative Terminus, Marina Alternative Terminus, MTBS, and NCWRP, and the LFG Pipeline. Low potential to occur in all other components that have suitable habitat, but where focused surveys were negative. Not expected to occur within Project components lacking suitable habitat.

Scientific Name	Common Name	Status (Federal/State/ CRPR/MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Morena Pump Station	Morena Wastewater Forcemain and Brine/ Centrate Lines (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline -In- Reservoir Alternative Terminus (San Vicente Pipeline - IRAT)	San Vicente Pipeline- Marina Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Xanthisma junceum	rush-like bristleweed	None/None/4.3/ None	Chaparral, coastal scrub/perennial herb/June–Jan/787– 3281	X	X	X	X	X	X	L	L	L	L	L	X	X	Low potential to occur within the Miramar Wastewater Treatment Plant Improvements; however, focused surveys for this species were negative. Not expected to occur in other Project components because they are below the species' known elevation range.

Notes:

X = not expected (no suitable habitat and/or outside elevation range)

D = detected within the component or 100-foot buffer

L = low potential (suitable habitat but surveys were negative)

Status Legend:

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

DL: Delisted

CE: State listed as endangered

CT: State listed as threatened

CR: State Rare

CRPR 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere

CRPR 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

CRPR 2A: Plants Presumed Extirpated in California, But More Common Elsewhere

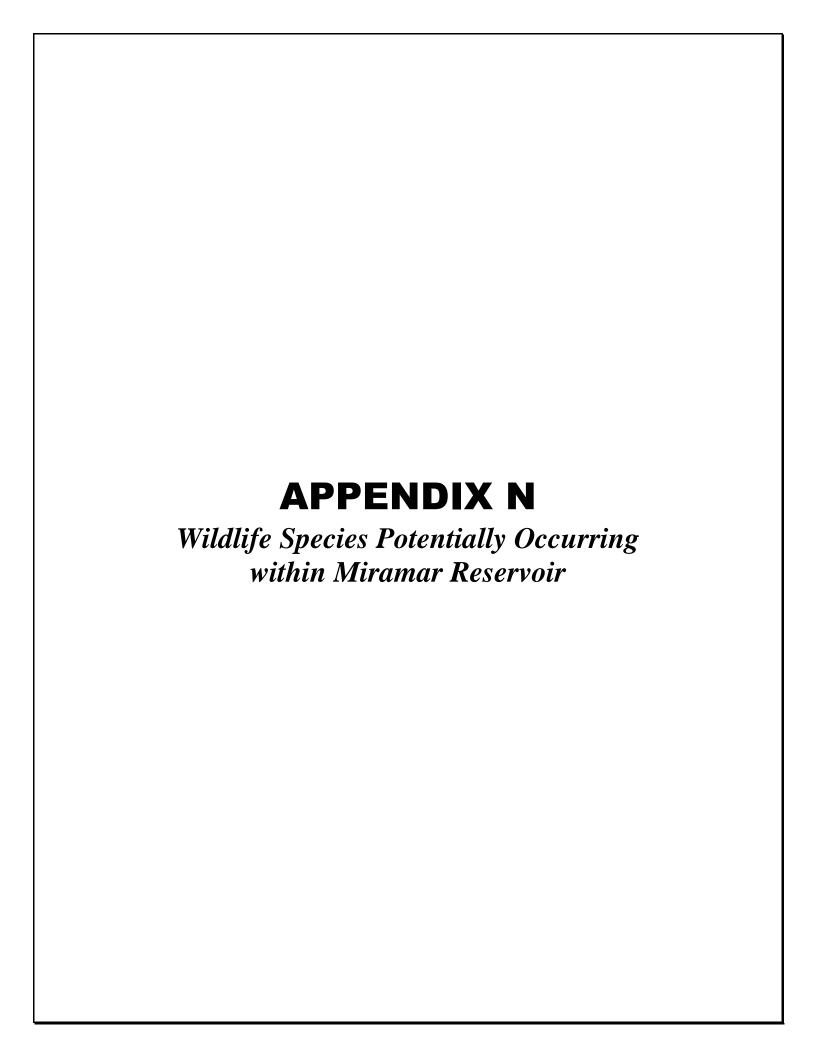
CRPR 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere CRPR 3: Plants About Which More Information is Needed - A Review List

CRPR 4: Plants of Limited Distribution - A Watch List

- .1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
 .2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- .3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

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APPENDIX N Wildlife Species Potentially Occurring within Miramar Reservoir

Common Names	Scientific Name	Status (Federal/ State/Other/ MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility - Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center Improvements (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Water Treatment Plant Improvements (Miramar WTP)	Pure Water Dechlorination Facility (Dechlorination Facility)	Potential to Occur
California red-	Rana draytonii	FT/SSC/None/	Lowland streams, wetlands,	Х	Х	X	Amphibians X	X	Х	X	Х	X	X	Х	Not expected to occur
legged frog	Kana draytoriii	Covered	riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	^	*	^	^	^	^	^	^	^	^	^	throughout due to being outside of accepted geographic range of species.
western spadefoot	Spea hammondii	None/SSC/None/ None	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	X	M	L	X	M	M	L	L	Н	X	X	High potential to occur within the 500-foot buffer of the LFG Pipeline due to the presence of vernal pools. Moderate potential to occur within the 500-foot buffer of the Morena Pipelines, NCPWF, and North City Pump Station due to the presence of vernal pools. Low potential to occur within the 500-foot buffer of the NCWRP, North City Pipeline, and MBC. Not expected to occur in the areas that lack suitable habitat.
arroyo toad	Anaxyrus californicus	FE/SSC/None/ Covered	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering	X	Х	Х	X	Х	Х	Х	X	Х	X	X	Not expected to occur throughout due to populations only occurring upstream of the reservoirs in San Diego.

Common Names	Scientific Name	Status (Federal/ State/Other/ MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility - Influent Pump Station (NCPWF Influent Pump Station) Reptiles	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center Improvements (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Water Treatment Plant Improvements (Miramar WTP)	Pure Water Dechlorination Facility (Dechlorination Facility)	Potential to Occur
western pond turtle	Actinemys marmorata	None/SSC/None/ Covered	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	X	<u>₩</u> <u>D</u>	X	X	X	X	H□	X	X	X	X	Observed within 500-foot buffer of Morena Pipelines south of State Route-52 (SR-52) and east of Genesee Ave in epen watersouthern riparian forest. Observed within 500-foot buffer of the North City Pipeline in Evan's Pond south of Scripps Lake Drive and north, northeast, and east banks of the Miramar Reservoir in open water habitat. Not expected to occur in areas that lack suitable habitat or the impact footprint.
coast patch- nosed snake	Salvadora hexalepis virgultea	None/SSC/None/ None	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites	Х	L	Х	Х	Х	Х	L	Х	L	Х	X	Low potential to occur in the 500-foot buffer of the Morena Pipelines, North City Pipeline, and LFG Pipeline due to limited habitat. Not expected to occur in areas that lack suitable habitat or in the impact footprint.
orangethroat whiptail	Aspidoscelis hyperythra	None/WL/None/ Covered	Low-elevation coastal scrub, chaparral, and valley–foothill hardwood	L	M	L	X	M	M	M	M	Н	L	X	High potential to occur within 500-foot buffer of the LFG Pipeline. Moderate potential to occur within the 500-foot buffer of Morena Pipelines, NCPWF, North City Pump Station, North City Pipeline, and MBC. Low potential to occur in the 500-foot buffer of the Morena Pump Station, NCWRP, and Miramar WTP due to limited habitat. Not expected to occur in areas that lack suitable habitat.

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Common Names	Scientific Name	Status (Federal/ State/Other/ MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility - Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center Improvements (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Water Treatment Plant Improvements (Miramar WTP)	Pure Water Dechlorination Facility (Dechlorination Facility)	Potential to Occur
Coronado Island skink	Plestiodon skiltonianus interparietalis	None/WL/None/ None	Woodlands, grasslands, pine forests, and chaparral; rocky areas near water	X	L	X	X	X	X	L	L	L	L	X	Low potential to occur in the 500-foot buffer of the Morena Pipelines, LFG Pipeline, and Miramar WTP due to limited habitat. Not expected to occur in areas that lack suitable habitat or in the impact footprint.
rosy boa	Lichanura trivirgata	None/None/ None/None	Desert and chaparral habitats with rocky soils in coastal canyons and hillsides, desert canyons, washes, and mountains	X	L	X	X	L	X	X	X	M	X	X	Moderate potential to occur within 500-foot buffer of the LFG Pipeline. Low potential to occur within the 500-foot buffer of the Morena Pipelines, and NCPWF. Not expected to occur in areas that lack suitable habitatwithin the remaining components, which are outside the species' known geographic range. The site is outside of the species' known geographic range.
green turtle	Chelonia mydas	FT/None/None/ None	Shallow waters of lagoons, bays, estuaries, mangroves, eelgrass, and seaweed beds	X	Х	Х	Х	Х	Х	X	Х	Х	Х	Х	Not expected to occur in 500-foot survey buffer or impact footprints. No suitable habitat present.
San Diego ringneck snake	Diadophis punctatus similis	None/None/ None/None	Moist habitats including wet meadows, rocky hillsides, gardens, farmland grassland, chaparral, mixed-conifer forest, and woodland habitats	X	M	X	X	L	X	L	L	L	X	X	Moderate potential to occur in the 500-foot buffer of the Morena Pipelines. Low potential to occur in the 500-foot buffer of the NCWRP, North City Pipeline, and LFG Pipeline due to limited habitat. Not expected to occur in areas that lack suitable habitat.

Common Names	Scientific Name	Status (Federal/ State/Other/ MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility - Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center Improvements (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Water Treatment Plant Improvements (Miramar WTP)	Pure Water Dechlorination Facility (Dechlorination Facility)	Potential to Occur
silvery legless lizard	Anniella pulchra pulchra	None/SSC/None/ None	Stabilized dunes, beaches, dry washes, chaparral, scrubs, and pine, oak, and riparian woodlands; associated with sparse vegetation and sandy or loose, loamy soils	L	М	L	X	L	L	L	L	L	L	X	Moderate potential to occur in the 500-foot buffer of the Morena Pipelines. Low potential to occur in the 500-foot buffer of the Morena Pump Station, NCPWF, North City Pump Station, NCWRP, North City Pipeline, MBC, LFG Pipeline, and Miramar WTP due to limited habitat. Not expected to occur in areas that lack suitable habitat.
Blainville's horned lizard	Phrynosoma blainvillii	None/SSC/None/ Covered	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley-foothill hardwood, conifer, riparian, pine-cypress, juniper, and annual grassland habitats	X	М	X	Х	L	L	L	L	M	L	X	Moderate potential to occur in the 500-foot buffer of the Morena Pipelines and LFG Pipeline. Low potential to occur within the 500-foot buffer of the NCPWF, North City Pipeline, MBC, and Miramar WTP due to limited habitat. Not expected to occur in areas that lack suitable habitat.
red diamondback rattlesnake	Crotalus ruber	None/SSC/None/ None	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	Х	M	L	X	M	Х	M	L	M	L	X	Moderate potential to occur within the 500-foot buffer of the Morena Pipelines, NCPWF, North City Pipeline, and LFG Pipeline. Low potential to occur within the 500-foot buffer of the NCWRP, MBC, and Miramar WTP due to limited habitat. Not expected to occur in areas that lack suitable habitat.

Common Names	Scientific Name	Status (Federal/ State/Other/ MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility - Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center Improvements (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Water Treatment Plant Improvements (Miramar WTP)	Pure Water Dechlorination Facility (Dechlorination Facility)	Potential to Occur
San Diegan tiger whiptail	Aspidoscelis tigris stejnegeri	None/SSC/None/ None	Open areas in semiarid grasslands, scrublands, and woodlands	L	Н	M	X	H	М	M	M	Н	L	X	High potential to occur within 500-foot buffer of the Morena Pipelines, NCPWF, and LFG Pipeline. Moderate potential to occur within the 500-foot buffer of the NCWRP, North City Pipeline, North City Pipeline, and MBC. Low potential to occur within the 500-foot buffer of the Morena Pump Station and Miramar WTP due to limited habitat. Not expected to occur in areas that lack suitable habitat
two-striped gartersnake	Thamnophis hammondii	None/SSC/None/ None	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	X	М	X	X	X	X	М	X	Х	L	X	Moderate potential to occur near termination point within the 500-foot buffer of the North City Pipeline at Miramar Reservoir, and Morena Pipelines. Low potential to occur within the 500-foot buffer of the Miramar WTP. Not expected to occur in areas that lack suitable habitat.
							Birds								
burrowing owl	Athene cunicularia (burrow sites & some wintering sites)	BCC/SSC/ None/Covered	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	X	L	L	X	L	X	L	L	L	X	X	Low potential to occur in the 500-foot buffer of the Morena Pipelines, NCWRP, NCPWF, North City Pipeline, MBC, and LFG Pipeline due to limited habitat. No BUOW or sign observed during 2016 focused surveys.

Common Names	Scientific Name	Status (Federal/ State/Other/ MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility - Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center Improvements (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Water Treatment Plant Improvements (Miramar WTP)	Pure Water Dechlorination Facility (Dechlorination Facility)	Potential to Occur
California black rail	Laterallus jamaicensis coturniculus	BCC/ST, FP/None/ None	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	Х	X	X	X	Х	Х	Х	X	Х	X	X	Not expected to occur in the 500-foot buffer or impact footprints.
ferruginous hawk	Buteo regalis (wintering)	BCC/WL/ None/Covered	Winters and forages in open, dry country, grasslands, open fields, agriculture	Χ	X	X	Х	Х	Х	X	X	Х	X	X	Not expected to winter within 500-foot buffer throughout study area.
grasshopper sparrow	Ammodramus savannarum (nesting)	None/SSC/None/ None	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches	Х	X	X	X	L	X	L	L	M	X	X	Moderate potential to occur within 500-foot buffer of the LFG Pipeline. Low potential to nest within the 500-foot buffer of the NCPWF, North City Pipeline, and MBC. Species may use surrounding suitable habitat to forage. Not expected to nest in areas that lack suitable habitat or impact footprints.
northern harrier	Circus cyaneus (nesting)	None/SSC/None/ Covered	Nests in open wetlands including marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes, but also in drier habitats such as grassland and grain fields; forages in variety of habitats, including grassland, scrubs, rangelands, emergent wetlands, and other open habitats	L	L	X	X	L	X	L	L	L	X	X	Low potential to nest within the 500-foot buffer of the Morena Pump Station, Morena Pipelines, NCPWF, North City Pipeline, MBC, and LFG Pipeline. Not expected to nest in areas that lack suitable habitat or impact footprints.
Swainson's hawk	Buteo swainsoni (nesting)	BCC/ST/ None/Covered	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agriculturals areas such as wheat and alfalfa fields and pasture	Х	Х	Х	Х	Х	Х	X	X	Х	X	X	Not expected to nest within 500-foot buffer of the study area.

Common Names	Scientific Name	Status (Federal/ State/Other/ MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility - Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center Improvements (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Water Treatment Plant Improvements (Miramar WTP)	Pure Water Dechlorination Facility (Dechlorination Facility)	Potential to Occur
tricolored blackbird	Agelaius tricolor (nesting colony)	BCC/SSC/ None/Covered	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	Х	X	Х	Х	Х	Х	Х	Х	Х	Х	X	Not expected to occur in 500-foot survey buffer or impact footprints due to lack of suitable habitat.
yellow warbler	Setophaga petechia (nesting)	BCC/SSC/ None/None	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	M	<u>₩</u>	X	X	X	X	L	X	Н	X	X	Observed within 500-foot buffer of Morena Pipelines, outside the impact footprint. High potential to occur within the 500-foot buffer of the LFG Pipeline, but outside the impact footprint. Moderate potential to nest or forage within the 500-foot buffer of the Morena Pump Station adjacent to the San Diego River. Low potential to nest or forage within the 500-foot buffer of the North City Pipeline due to limited suitable habitat. Not expected to nest or forage in areas that lack suitable habitat or impact footprints.
American peregrine falcon	Falco peregrinus anatum (nesting)	FDL, BCC/SDL, FP/None/ Covered	Nests on cliffs, buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present	Х	Ļ	Х	Х	Х	Х	Х	Х	Х	Х	X	Low potential to nest within the 500-foot buffer of the Morena Pipelines. Not expected to nest or forage in areas that lack suitable habitat or impact footprints.
bald eagle	Haliaeetus leucocephalus (nesting & wintering)	FDL, BCC/SE, FP/None/ Covered	Nests in forested areas adjacent to large bodies of water, including seacoasts, rivers, swamps, large lakes; winters near large bodies of water in lowlands and mountains	X	X	X	Х	X	Х	Х	X	Х	X	X	Not expected to nest or winter in the 500-foot buffer or component impact footprints. No suitable habitat present.

Common Names	Scientific Name	Status (Federal/ State/Other/ MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility - Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center Improvements (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Water Treatment Plant Improvements (Miramar WTP)	Pure Water Dechlorination Facility (Dechlorination Facility)	Potential to Occur
Cooper's hawk	Accipiter cooperii (nesting)	None/WL/ None/Covered	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	L	<u>₩</u>	X	X	X	X	M	X	M	X	L	Observed within the 500- foot buffer of Morena Pipelines, outside the impact footprint. Moderate potential to nest or forage within the 500-foot buffer of North City Pipeline. Moderate potential to occur within the 500-foot buffer of theand the LFG Pipeline. Low potential to nest within the 500-foot buffer of the Morena Pump Station and Dechlorination Facility. Not expected to nest or forage in areas that lack suitable habitat or impact footprints.
coastal cactus wren	Campylorhynchus brunneicapillus sandiegensis (San Diego & Orange Counties only)	BCC/SSC/ None/Covered	Southern cactus scrub patches	X	X	X	X	X	X	X	X	X	X	X	Not expected to occur in the 500-foot buffer or component impact footprints.
coastal California gnatcatcher	Polioptila californica californica	FT/SSC/None/ Covered	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level	X	<u>₩</u>	₩D	L	M	M	M	₩ <u>D</u>	₩ <u>D</u>	L	X	Observed within the 500- foot buffer of Morena Pipelines, NCWRP, MBC, and LFG Pipeline. High Moderate potential to occur within the 500-foot buffer of Morena Pipelines, NCPWF, North City Pump Station, and North City Pipeline. Low potential to occur within the 500-foot buffer of the NCPWF Influent Pump Station and Miramar WTP. Not likely to occur in areas lacking suitable habitat.

Common Names	Scientific Name	Status (Federal/ State/Other/ MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility - Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center Improvements (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Water Treatment Plant Improvements (Miramar WTP)	Pure Water Dechlorination Facility (Dechlorination Facility)	Potential to Occur
least Bell's vireo	Vireo bellii pusillus (nesting)	FE/SE/None/ Covered	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	M	М	X	X	X	X	L	M	M	X	X	Moderate potential to nest or forage in suitable habitat within the 500-foot buffer of the Morena Pipelines and Morena Pump Station adjacent to the San Diego River and within the 500-foot buffer of the MBC in San Clemente Canyon and LFG Pipeline within Rose Creek. Low potential to nest within the 500-foot buffer of North City Pipeline. Not expected to nest or forage within the impact footprint due to lack of suitable riparian habitat.
southwestern willow flycatcher	Empidonax traillii extimus (nesting)	FE/SE/None/ Covered	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	M	M	X	X	X	X	L	M	M	X	X	Moderate potential to nest or forage in suitable habitat within the 500-foot buffer of the Morena Pipelines and the Morena Pump Station adjacent to the San Diego River and within the 500-foot buffer of the MBC in San Clemente Canyon and LFG Pipeline within Rose Creek. Low potential to nest or forage in suitable habitat within the 500-foot buffer of the North City Pipeline. Not expected to nest or forage within the impact footprint due to lack of suitable riparian habitat.

Common Names	Scientific Name	Status (Federal/ State/Other/ MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility - Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center Improvements (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Water Treatment Plant Improvements (Miramar WTP)	Pure Water Dechlorination Facility (Dechlorination Facility)	Potential to Occur
white-tailed kite	Elanus leucurus (nesting)	None/FP/None/ None	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	L	M	L	X	HD	X	L	M	M	X	X	Observed within the 500- foot buffer of the North City Pure Water Facility. Moderate potential to nest within 500-foot buffer of the Morena Pipelines, MBC, and LFG Pipeline. Low potential to nest within the 500-foot buffer of the Morena Pump Station, NCWRP, NCPWF, and North City Pipeline. Not expected to nest or forage in areas that lack suitable habitat or impact footprint.
yellow- breasted chat	Icteria virens (nesting)	None/SSC/None/ None	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	M	M	X	X	X	X	L	M	Н	X	X	High potential to occur within the 500-foot buffer of the LFG Pipeline. Moderate potential to nest within 500-foot buffer of the Morena Pipelines, MBC, and Morena Pump Station adjacent to the San Diego River. Low potential to nest within the 500-foot buffer of the North City Pipeline. Not expected to nest or forage in areas that lack suitable habitat.
golden eagle	Aquila chrysaetos (nesting & wintering)	BCC/FP, WL/None/ Covered	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	X	X	X	X	X	X	L	X	L	X	X	Low potential to nest and winter within the 500-foot buffer of the North City Pipeline and LFG Pipeline. Not expected to areas lacking suitable habitat or the impact footprints.
prairie falcon	Falco mexicanus (nesting)	BCC/WL/None/ None	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	X	Not expected to nest or forage in the 500-foot survey buffer or impact footprint. No suitable nesting habitat present.

Common Names	Scientific Name	Status (Federal/ State/Other/ MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility - Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center Improvements (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Water Treatment Plant Improvements (Miramar WTP)	Pure Water Dechlorination Facility (Dechlorination Facility)	Potential to Occur
southern California rufous- crowned sparrow	Aimophila ruficeps canescens	None/WL/None/ Covered	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	X	M	L	X	M	L	M	M	M	L	X	Moderate potential to occur within the 500-foot buffer of the Morena Pipelines, NCPWF, North City Pipeline, MBC, and LFG Pipeline. Low potential to occur within 500-foot buffer of the NCWRP, North City Pump Station, and Miramar WTP. Not expected to occur in areas that lack suitable habitat.
Belding's savannah sparrow	Passerculus sandwichensis beldingi	None/SE/None/ Covered	Nests and forages in coastal saltmarsh dominated by pickleweed (<i>Salicornia</i> spp.)	X	X	X	X	X	X	X	X	Х	X	X	Not expected to occur in the 500-foot buffer or component impact footprint. No suitable nesting habitat present.
Bell's sage sparrow	Artemisiospiza belli belli	BCC/WL/None/ None	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses more open habitat in winter	Х	L	Х	Х	L	Х	L	L	L	Х	X	Low potential to occur within the 500-foot buffer of the Morena Pipelines, NCPWF, North City Pipeline, and LFG Pipeline. Not expected to occur in areas lacking suitable habitat.
California brown pelican	Pelecanus occidentalis californicus (nesting colonies & communal roosts)	FDL/SDL, FP/None/ Covered	Forages in warm coastal marine and estuarine environments; in California, nests on dry, rocky offshore islands	Х	Х	Х	Х	Х	X	Х	Х	Х	Х	Х	Not expected to occur in the 500-foot buffer or component impact footprint. No suitable nesting habitat present.
California horned lark	Eremophila alpestris actia	None/WL/None/ None	Nests and forages in grasslands, disturbed lands, agriculture, and beaches; nests in alpine fell fields of the Sierra Nevada	X	X	L	X	L	X	L	L	M	X	X	Moderate potential to forage within 500-foot buffer of the LFG Pipeline. Low potential to forage within the 500-foot buffer of the NCWRP, NCPWF, North City Pipeline, and MBC. Not expected to occur in areas lacking suitable habitat.

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California least tern	Sternula antillarum browni (nesting colony)	FE/SE, FP/None/ Covered	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	X	Not expected to nest in the 500-foot buffer or component impact footprints. No suitable nesting habitat present.
double- crested cormorant	Phalacrocorax auritus (nesting colony)	None/WL/None/ None	Nests in riparian trees near ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines; winter habitat includes lakes, rivers, and coastal areas	Х	X	X	X	X	X	Х	Х	Х	X	X	Not expected to nest in the 500-foot buffer or component impact footprints. No suitable nesting habitat present.
elegant tern	Thalasseus elegans (nesting colony)	None/WL/None/ Covered	Inshore coastal waters, bays, estuaries, and harbors; forages over open water	Х	Х	Х	Х	Х	X	Х	Х	Х	Х	X	Not expected to nest in the 500-foot buffer or component impact footprints. No suitable nesting habitat present.
large-billed savannah sparrow	Passerculus sandwichensis rostratus (wintering)	None/SSC/None/ Covered	Nests and forages in open, low saltmarsh vegetation, including low halophytic scrub	Х	Х	Х	Х	Х	X	Х	Х	Х	Х	X	Not expected to nest in the 500-foot buffer or component impact footprints. No suitable nesting habitat present.
least bittern	Ixobrychus exilis (nesting)	BCC/SSC/None/ None	Nests in freshwater and brackish marshes with dense, tall growth of aquatic and semi-aquatic vegetation	Х	L	Х	Х	Х	X	L	Х	Х	Х	Х	Not expected to nest in the 500-foot buffer or component impact footprints. No suitable nesting habitat present.
long-billed curlew	Numenius americanus (nesting)	BCC/WL/None/ Covered	Nests in grazed, mixed grass, and short-grass prairies; localized nesting along the California coast; winters and forages in coastal estuaries, mudflats, open grassland, and cropland	X	Х	Х	Х	X	Х	Х	X	Х	X	X	Not expected to nest in the 500-foot buffer or component impact footprints. No suitable nesting habitat present.
mountain plover	Charadrius montanus (wintering)	BCC/SSC/None/ Covered	Winters in shortgrass prairies, plowed fields, open sagebrush, and sandy deserts	Х	X	Х	X	Х	Х	Х	X	Х	X	X	Not expected to winter in the 500-foot buffer or component impact footprints due to poor habitat quality.

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osprey	Pandion haliaetus (nesting)	None/WL/None/ None	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast	Х	X	X	Х	Х	Х	M	X	Х	M	X	Moderate potential to roost and forage at Miramar Reservoir within 500-foot buffer of the North City Pipeline and Miramar WTP. Not expected to nest in the 500-foot buffer or component impact footprints.
western snowy plover	Charadrius alexandrinus nivosus (nesting)	FT, BCC/SSC/ None/Covered	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	Х	Х	Х	Х	Х	Х	X	Х	Х	Х	X	Not expected to nest in the 500-foot buffer or component impact footprints. No suitable nesting habitat present.
western yellow-billed cuckoo	Coccyzus americanus occidentalis (nesting)	FT, BCC/SE/ None/None	Nests in dense, wide riparian woodlands and forest with well-developed understories	X	X	Х	Х	X	X	X	X	X	X	X	Not expected to nest in the 500-foot buffer or component impact footprints. No suitable nesting habitat present.
white-faced ibis	Plegadis chihi (nesting colony)	None/WL/None/ Covered	Nests in shallow marshes with areas of emergent vegetation; winter foraging in shallow lacustrine waters, flooded agricultural fields, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields, and estuaries	Х	Х	Х	X	X	Х	Х	X	Х	Х	Х	Not expected to nest in the 500-foot buffer or component impact footprints. No suitable nesting habitat present.
Canada goose	Branta canadensis	None/None/ Covered	Lakes, rivers, ponds, and other bodies of water; yards, park lawns, and agricultural fields	X	Х	Х	Х	X	Х	L	Х	L	Н	X	Low potential to occur in the 500-foot buffer or component impact footprints near the Miramar Reservoir. No suitable habitat present.
reddish egret	Egretta rufescens	None/None/None/ Covered	Freshwater marsh with emergent vegetation; in the Central Valley primarily nests and forages in rice fields and other flooded agricultural fields with weeds and other residual aquatic vegetation	Х	Х	Х	X	X	Х	Х	X	X	X	X	Not expected to nest in the 500-foot buffer or component impact footprints. No suitable nesting habitat present.

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western bluebird	Sialia mexicana	None/None/ Covered	Nests in old-growth red fir, mixed-conifer, and lodegpole pine habitats near wet meadows used for foraging	L	M	L	X	L	L	L	L	M	L	X	Moderate potential to occur within 500-foot buffer of the Morena Pipelines and LFG Pipeline. Low potential to occur within 500-foot buffer of the Morena Pump Station, NCWRP, NCPWF, North City Pump Station, North City Pipeline, MBC, and Miramar WTP. Not expected to nest or forage in areas that lack suitable nesting habitat present.
Ridgway's rail	Rallus obsoletus levipes	FE/SE, FP/None/ Covered	Coastal wetlands, brackish areas, coastal saline emergent wetlands	L	X	X	X	X	Х	Х	X	Х	X	X	Low potential to occur within 500-foot buffer of the Morena Pump Station. Not expected to nest or forage in areas that lack suitable nesting habitat present.
							Mammals								
Pacific pocket mouse	Perognathus longimembris pacificus	FE/SSC/None/ None	Fine-grained sandy substrates in open coastal strand, coastal dunes, and river alluvium	Х	X	X	Х	Х	Х	X	X	Х	X	X	Not expected to occur in the 500-foot buffer or component impact footprints due to lack of suitable habitat.
San Diego desert woodrat	Neotoma lepida intermedia	None/SSC/None/ None	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Х	Х	Х	Х	Х	X	Х	Х	Х	Х	Х	Not expected to occur in the 500-foot buffer or component impact footprints due to lack of suitable habitat.
big free-tailed bat	Nyctinomops macrotis	None/SSC/ WBWG:MH/ None	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	X	X	X	X	X	X	X	X	Х	X	X	Not expected to roost or forage within the 500-foot buffer or component impact footprints due to limited suitable habitat present.

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long-eared myotis	Myotis evotis	None/None/ WBWG:M/ None	Nearly all brush, woodland, and forest habitats from sea level to 9,000 feet above mean sea level, but prefers coniferous habitats; forages along habitat edges, in open habitats, and over water; roosts in buildings, crevices, under bark, and snags; uses caves as night roosts	X	L	X	X	X	X	L	X	X	X	X	Low potential to occur within the 500-foot buffer of the Morena Pipelines, and North City Pipeline due to limited habitat. Not expected to occur in areas that lack suitable habitat or in the impact footprint.
pallid bat	Antrozous pallidus	None/SSC/ WBWG:H/None	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	X	М	Х	Х	М	X	M	X	M	Х	X	Moderate potential to forage within in the 500-foot buffer of the Morena Pipelines, NCPWF, and LFG Pipeline. Not expected to occur in areas lacking suitable habitat and impact footprints.
western small- footed myotis	Myotis ciliolabrum	None/None/ WBWG:M/None	Arid woodlands and shrublands, but near water; roosts in caves, crevices, mines, abandoned buildings	Х	L	Х	X	Х	Х	L	Х	Х	Х	Х	Low potential to forage within the 500-foot buffer of the Morena Pipelines, and NCPWF. Not expected to occur in areas lacking suitable habitat and component impact footprints.
Yuma myotis	Myotis yumanensis	None/None/ WBWG:LM/ None	Riparian, arid scrublands and deserts, and forests associated with water (streams, rivers, tinajas); roosts in bridges, buildings, cliff crevices, caves, mines, and trees	M	М	X	X	X	Х	М	X	X	X	X	Moderate potential to forage within the 500-foot buffer of the Morena Pump Station, Morena Pipelines, and NCPWF. Not expected to occur in areas lacking suitable habitat and component impact footprints.
American badger	Taxidea taxus	None/SSC/None/ Covered	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Х	Х	Х	Х	Х	Х	Х	L	L	X	X	Low potential to forage within the 500-foot buffer of the LFG Pipeline. Not expected to occur in areas lacking suitable habitat and component impact footprints.

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Dulzura pocket mouse	Chaetodipus californicus femoralis	None/SSC/None/ None	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed-conifer habitats; disturbance specialist; 0 to 3,000 feet above mean sea level	X	L	L	X	L	L	L	L	L	L	X	Low potential to occur within the 500-foot buffer of the Morena Pipelines, NCWRP, NCPWF, North City Pump Station, North City Pipeline, MBC, LFG Pipeline, and Miramar WTP. Not expected to occur in areas lacking suitable habitat.
hoary bat	Lasiurus cinereus	None/None/ WBWG:M/None	Forest, woodland riparian, and wetland habitats; also juniper scrub, riparian forest, and desert scrub in arid areas; roosts in tree foliage and sometimes cavities, such as woodpecker holes	L	L	Х	Х	Х	Х	L	Х	Х	Х	X	Low potential to occur within the 500-foot buffer of the Morena Pump Station, Morena Pipelines, and North City Pipeline. There is limited suitable habitat present.
Mexican long- tongued bat	Choeronycteris mexicana	None/SSC/ WBWG:H/None	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon–juniper woodland; roosts in caves, mines, and buildings	X	Х	Х	Х	Х	Х	X	Х	X	Х	Х	Not expected to occur within the 500-foot buffer or component impact footprints due to lack of suitable habitat. No suitable habitat present.
northwestern San Diego pocket mouse	Chaetodipus fallax fallax	None/SSC/None/ None	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon—juniper, and annual grassland	X	L	X	X	L	Ļ	L	L	L	L	X	Low potential to occur within the 500-foot buffer of the Morena Pipelines, NCPWF, North City Pump Station, North City Pipeline, MBC, LFG Pipeline, and Miramar WTP. Not expected to occur in areas lacking suitable habitat.
pocketed free- tailed bat	Nyctinomops femorosaccus	None/SSC/ WBWG:M/None	Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with dropoffs, caverns, and buildings	Х	Х	Х	X	X	Х	X	X	Х	X	X	Not expected to occur within the 500-foot buffer or component impact footprints due to lack of suitable habitat. No suitable habitat present.

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San Diego black-tailed jackrabbit	Lepus californicus bennettii	None/SSC/None/ None	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	X	L	L	X	L	L	L	L	M	X	X	Moderate potential to occur within 500-foot buffer of the LFG Pipeline. Low potential to occur within the 500-foot buffer of the Morena Pipelines, NCWRP, NCPWF, North City Pump Station, North City Pipeline, and MBC. Not expected to occur in areas lacking suitable habitat.
silver-haired bat	Lasionycteris noctivagans	None/None/ WBWG:M/None	Old-growth forest, maternity roosts in trees (primarily woodpecker hollows), large-diameter snags 50 feet aboveground; hibernates in hollow trees, under sloughing bark, in rock crevices, and occasionally in buildings, mines, and caves; forages in or near coniferous or mixed deciduous forest, often following stream or river drainages	X	X	X	X	X	X	X	X	X	X	X	Not expected to occur due to lack of suitable habitat.
spotted bat	Euderma maculatum	None/SSC/ WBWG:H/None	Foothills, mountains, desert regions of southern California, including arid deserts, grasslands, and mixed-conifer forests; roosts in rock crevices and cliffs; feeds over water and along washes	Х	Х	Х	X	Х	Х	Х	X	Х	X	X	Not expected to occur due to lack of suitable habitat.
Stephens' kangaroo rat	Dipodomys stephensi	FE/ST/ None/None	Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas	Х	Х	X	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. This study area is outside of this species' geographic range.
Townsend's big-eared bat	Corynorhinus townsendii	None/SC, SSC/WBWG:H/ None	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	L	L	X	X	Х	X	L	X	X	X	X	Low potential to occur within the 500 foot buffer of the Morena Pump Station, Morena Pipelines, and North City Pipeline. Not expected to occur in areas lacking suitable habitat.

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western mastiff bat	Eumops perotis californicus	None/SSC/ WBWG:H/None	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	Х	L	X	X	L	X	L	L	L	L	X	Low potential to occur within the 500-foot buffer of the Morena Pipelines, NCPWF, North City Pipeline, LFG Pipeline, and Miramar WTP. Not expected to occur in areas lacking suitable habitat.
western red bat	Lasiurus blossevillii	None/SSC/ WBWG:H/None	Forest, woodland, riparian, mesquite bosque, and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy	L	L	X	X	Х	X	L	X	Х	X	X	Low potential to occur within the 500-foot buffer of the Morena Pump Station, Morena Pipelines, and North City Pipeline. There is limited suitable habitat present.
western yellow bat	Lasiurus xanthinus	None/SSC/ WBWG:H/None	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	X	Х	Х	Х	Х	Х	X	Х	X	Х	Х	Not expected to occur in the 500-foot buffer or component impact footprints due to lack of suitable habitat.
cougar	Puma concolor	None/None/ Covered	Scrubs, chaparral, riparian, woodland, and forest; rests in rocky areas and on cliffs and ledges that provide cover; most abundant in riparian areas and brushy stages of most habitats throughout California, except deserts	X	X	X	X	Х	X	X	L	L	X	X	Low potential to occur within the 500-foot area buffer of the MBC, and LFG Pipeline. Not expected to occur in areas lacking suitable habitat.
mule deer	Odocoileus hemionus	None/None/ Covered	Coastal sage scrub, chaparral, riparian, woodlands, and forest; often browses in open area adjacent to cover throughout California, except deserts and intensely farmed areas	L	L	L	Х	L	Х	M	M	M	L	X	Moderate potential to occur within the 500-foot buffer for the North City Pipeline, MBC, and LFG Pipeline. Low potential to occur within the 500-foot buffer of the Morena Pump Station, Morena Pipelines, NCWRP, NCPWF, and Miramar WTP. Not expected to occur in areas with lack of suitable habitat or in component impact footprints.

Common Names	Scientific Name	Status (Federal/ State/Other/ MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility - Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center Improvements (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Water Treatment Plant Improvements (Miramar WTP)	Pure Water Dechlorination Facility (Dechlorination Facility)	Potential to Occur
							Invertebrates								
Riverside fairy shrimp	Streptocephalus woottoni	FE/None/ None/Covered	Vernal pools, non-vegetated ephemeral pools	X	X	L	X	L	L	X	X	X	X	X	Low potential to occur in vernal pools observed within 500-foot buffer of the NCWRP, NCPWF, and North City Pump Station. Not expected to occur within 500-foot buffer or component impact areas. This species would have been observed during focused survey.
San Diego fairy shrimp	Branchinecta sandiegonensis	FE/None/None/ Covered	Vernal pools, non-vegetated ephemeral pools	X	X	L	X	X	L	D	X	D	X	X	Observed within the 500- foot buffer of or adjacent to two project components containing vernal pools: the North City Pipeline, and LFG Pipeline. Focused surveys for this species at the NCPWF in 2015/2016 and 2017 were negative. Low potential to occur in vernal pools observed within 500-foot buffer of the NCWRP, and North City Pump Station. Not expected to occur within 500-foot buffer or component impact areas. This species would have been observed during focused survey.
obscure bumble bee	Bombus caliginosus	None/None/SS/ None	Relatively humid or foggy areas of the Pacific coast south to central California. Food plants include Baccharis, Cirsium, Grindelia, Phacelia, Arctostaphylos, Eriodictyon, Ceanothus, Adenostoma, and Mimulus	Х	X	X	X	Х	Х	X	X	Х	X	X	Not expected to occur within 500-foot buffer or component impact areas due to lack of suitable habitat.

Common Names	Scientific Name	Status (Federal/ State/Other/ MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility - Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center Improvements (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Water Treatment Plant Improvements (Miramar WTP)	Pure Water Dechlorination Facility (Dechlorination Facility)	Potential to Occur
Crotch bumble bee	Bombus crotchii	None/None/SS/ None	Open scrub habitats and grassland in coastal California east to the Sierra-Cascade crest and south into Mexico. Food plants include Asclepias, Chaenactis, Lupinus, Medicago, Phacelia, and Salvia	X	L	L	X	L	X	L	L	L	L	X	Low potential to occur within the 500-foot buffer of the Morena Pipelines, NCPWF, North City Pipeline, LFG Pipeline, and Miramar WTP. Not expected to occur in areas lacking suitable habitat and component impact footprints.
globose dune beetle	Coelus globosus	None/None/SS/ None	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile Creek in Mendocino County south to Ensenada, Mexico	Х	X	X	Х	Х	Х	X	X	Х	X	X	Not expected to occur within the 500-foot buffer or component impact areas due to lack of suitable habitat.
mesa shoulderband	Helminthoglypta coelata	None/None/SS/ None	Known only from a few locations in coastal San Diego County	X	X	X	X	X	X	X	X	Х	Х	Х	Not expected to occur within the 500-foot buffer or component impact areas due to lack of suitable habitat.
mimic tryonia (=California brackishwater snail)	Tryonia imitator	None/None/SS/ None	Inhabits coastal lagoons, estuaries, and saltmarshes, from Sonoma County south to San Diego County	Х	Х	X	Х	Х	X	X	Х	Х	Х	Х	Not expected to occur within the 500-foot buffer or component impact areas due to lack of suitable habitat.
sandy beach tiger beetle	Cicindela hirticollis gravida	None/None/SS/ None	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to northern Mexico	Х	Х	Х	Х	Х	X	Х	Х	Х	Х	Х	Not expected to occur within the 500-foot buffer or component impact areas due to lack of suitable habitat.
senile tiger beetle	Cicindela senilis frosti	None/None/SS/ None	Inhabits marine shoreline, from Central California coast south to saltmarshes of San Diego; also found at Lake Elsinore	Х	Х	X	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur within the 500-foot buffer or component impact areas due to lack of suitable habitat.
Thorne's hairstreak	Callophrys thornei	None/None/SS/ Covered	Interior cypress woodland dominated by host plant Hesperocyparis forbesii (Tecate cypress)	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur within the 500-foot buffer or component impact areas due to lack of suitable habitat.
western beach tiger beetle	Cicindela latesignata latesignata	None/None/SS/ None	Mudflats and beaches in coastal Southern California	Х	Х	X	Х	Х	X	Х	Х	Х	Х	Х	Not expected to occur within the 500-foot buffer or component impact areas due to lack of suitable habitat.

Common Names	Scientific Name	Status (Federal/ State/Other/ MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility - Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center Improvements (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Water Treatment Plant Improvements (Miramar WTP)	Pure Water Dechlorination Facility (Dechlorination Facility)	Potential to Occur
western tidal- flat tiger beetle	Cicindela gabbii	None/None/SS/ None	Inhabits estuaries and mudflats along the coast of Southern California	X	X	X	X	X	X	X	X	X	X	X	Not expected to occur within the 500-foot buffer or component impact areas due to lack of suitable habitat.
California mellitid bee	Melitta californica	None/None/SS/ None	Desert regions of southwestern Arizona, southeastern California, and Baja California, Mexico; also collected from Torrey Pines, San Diego County	X	X	X	X	X	X	X	X	X	X	X	Not expected to occur within the 500-foot buffer or component impact areas due to lack of suitable habitat.
Hermes copper	Lycaena hermes	FC/None/None/ None	Mixed woodlands, chaparral, and coastal scrub	Х	X	X	X	Х	X	X	X	L	X	X	Low potential to occur in suitable habitat with host plants (<i>Rhamnus crocea</i> and <i>Eriogonum fasciculatum</i>) within the 500-foot buffer LFG Pipeline. Not expected to occur in areas lacking suitable habitat. Not observed during 2016 focused surveys.
monarch	Danaus plexippus	None/None/SS/ None	Wind-protected tree groves with nectar sources and nearby water sources	L	M	L	X	L	L	M	X	X	X	X	Observed during QCB surveys, however low potential to overwinter on site due to limited suitable habitat. Moderate potential to occur within the 500-foot buffer and component impact footprint at the Morena Pipelines, and North City Pipeline. Low potential to occur within the 500-foot buffer and component impact footprint at the Morena Pump Station, and NCWRP.

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Common Names	Scientific Name	Status (Federal/ State/Other/ MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility - Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	North City Pure Water Pipeline (North City Pipeline)	Metro Biosolids Center Improvements (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Miramar Water Treatment Plant Improvements (Miramar WTP)	Pure Water Dechlorination Facility (Dechlorination Facility)	Potential to Occur
quino checkerspot	Euphydryas editha quino	FE/None/None/ None	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and finetextured clay; host plants include <i>Plantago erecta</i> (dwarf plantain), <i>Antirrhinum coulterianum</i> (white snapdragon), and <i>Plantago patagonica</i> (woolly plantain)	Х	X	L	X	Х	Х	Х	L	L	Х	Х	Low potential to occur within the 500-foot buffer of the NCWRP, MBC, and LFG Pipeline. Not expected to occur in areas that lack suitable habitat and outside of USFWS survey area. Not observed during 2016 focused surveys.
wandering skipper	Panoquina errans	None/None/SS/ Covered	Saltmarsh	Х	Х	X	Х	Х	Х	Х	X	Х	X	X	Not expected to occur within 500-foot buffer or component impact areas due to lack of suitable habitat.

Notes:

D = detected within the component or 500-foot buffer
M = moderate potential (suitable habitat and species observed elsewhere within the project)

L = low potential (suitable habitat but surveys were negative)

X = not expected (no suitable habitat and/or outside elevation range)

Status Notes:

FE: Federally Endangered FT: Federally Threatened FC: Federal Candidate

FC: Federal Candidate
FDL: Federally Delisted
BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern
SSC: California Species of Special Concern
FP: California Fully Protected Species
WL: California Watch List Species
SE: State Endangered
ST: State Threatened
SDI: State Delicted

SDL: State Delisted

SS: List Special Animals List, but no other status

WBWG: Western Bat Working Group

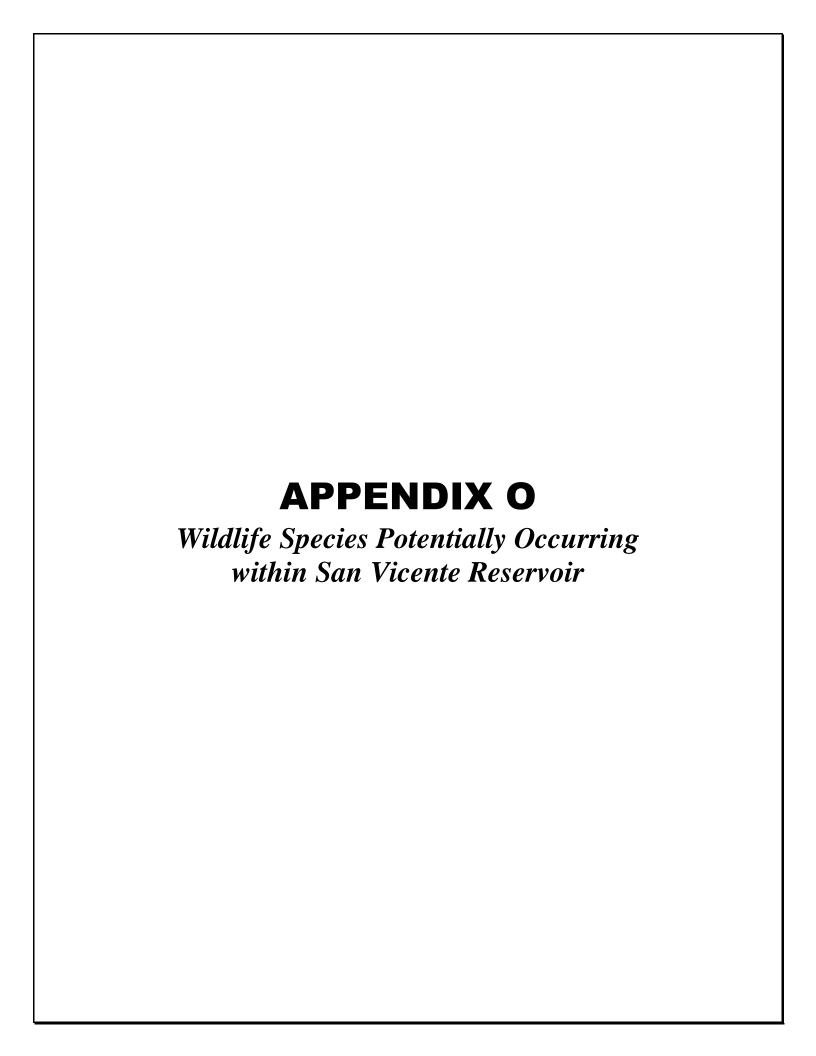
H: High HM: High-Medium

M: Medium

LM: Low-Medium

L: Low

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APPENDIX O Wildlife Species Potentially Occurring within San Vicente Reservoir

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
California red-legged frog	Rana draytonii	FT/SSC/None/ Covered	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby	Х	L	X	Х	X	Х	Х	Х	Х	Х	Х	Х	Х	Low potential to occur within the 500-foot buffer of the Morena Pipelines. There is limited suitable
			or emergent vegetation associated with deep, still or slow- moving water; uses adjacent uplands														habitat. Not expected to occur in areas that lack suitable habitat.
western spadefoot	Spea hammondii	None/SSC/None/ None	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	X	M	L	X	M	M	L	X	L		X	L	Н	High potential to occur within 500-foot buffer of the LFG Pipeline. Moderate potential to occur within the 500-foot buffer of the Morena Pipelines, NCPWF, and North City Pump Station. Low potential to occur within 500-foot buffer of the NCWRP, San Vicente Pipeline, San Vicente Pipeline – IRAT and – MAT, and MBC. There is limited suitable habitat. Not expected to occur in areas that lack suitable habitat.

Common Names arroyo toad	Scientific Name Anaxyrus californicus	Status (Federal/State/ Other/MSCP) FE/SSC/None/ Covered	Habitat Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order);	Morena Pump Station X	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) X	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station) X	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT) X	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT) X	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT) X	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur Low potential to occur within the 500-foot buffer of the Morena Pipelines. There is limited suitable habitat. Not expected to occur outside of its geographic range and in areas that lack
			adjacent stream terraces and uplands for foraging and wintering														suitable habitat.
			_				F	Reptiles									
western pond turtle	Actinemys marmorata	None/SSC/None/ Covered	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	X	₩ <u>D</u>	X	X	X	X	L	L	M	L	X	X	X	Observed within 500- foot buffer of Morena Pipelines in southern riparian forest South of State Route-52 (SR-52) and east of Genesee Ave. Moderate potential to occur within the 500- foot buffer of the San Vicente Pipeline – IRAT in open water habitat. Lot potential to occur within 500- foot buffer of the San Vicente Pipeline, and San Vicente Pipeline, and San Vicente Pipeline – TAT and – MAT. Not expected to occur in areas that lack suitable habitat.

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Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
coast patch- nosed snake	Salvadora hexalepis virgultea	None/SSC/None/ None	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites	X	L	X	X	X	X	L	L	L	L	X	X	L	Low potential to occur in areas of coastal sage scrub and southern mixed chaparral within the 500-foot buffer of the Morena Pipelines, San Vicente Pipeline, San Vicente Pipeline – TAT, – IRAT, and – MAT, and LFG Pipeline. However, the suitable dense vegetation is limited and unlikely to inhabitat species. Not expected to occur in areas that lack suitable habitat.
orangethroat whiptail	Aspidoscelis hyperythra	None/WL/None/ Covered	Low-elevation coastal scrub, chaparral, and valley—foothill hardwood	L	M	L	X	M	M	<u>HD</u>	<u>HD</u>	±	Н	L	M	H	Observed within 500- foot buffer of San Vicente Pipeline in coastal sage scrub north of Mission Gorge Road within Mission Trails Regional Park. Observed within 500- foot buffer of San Vicente Pipeline – TAT and – IRAT, within coastal sage scrub southeast of San Vicente Reservoir. High potential to occur within 500-foot buffer of the LFG Pipeline and San Vicente Pipeline – MAT. Moderate potential to occur within the 500-

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility - Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur foot buffer of the Morena Pipelines, NCPWF, North City Pump Station, and MBC. Low potential to occur within the 500- foot buffer of the Morena Pump Station, NCWRP, and MTBS. Not expected to occur in areas that lack suitable habitat.
Coronado Island skink	Plestiodon skiltonianus interparietalis	None/WL/None/ None	Woodlands, grasslands, pine forests, and chaparral; rocky areas near water	X	L	X	X	X	X	L	X	L	X	X	L	L	Low potential to occur in non-native grassland, coastal sage scrub, and woodlands within the 500-foot buffer of the within the 500-foot buffer of the Morena Pipelines, San Vicente Pipeline, San Vicente Pipeline – IRAT, MBC, and LFG Pipeline. However, there is lack of suitable rocky areas near water.
rosy boa	Lichanura trivirgata	None/None/None/ None	Desert and chaparral habitats with rocky soils in coastal canyons and hillsides, desert canyons, washes, and mountains	Х	L	X	X	L	X	HD	M	L	L	Х	X	M	Observed within 500- foot buffer of San Vicente Pipeline east of Golfcrest Drive along Mission Gorge Road in coastal sage scrub. Moderate potential to occur within 500-foot buffer of the San Vicente Pipeline – TAT and LFG Pipeline. Low potential to occur within 500-foot buffer

Common Names	Scientific Name Chelonia mydas	Status (Federal/State/ Other/MSCP)	Habitat Shallow waters of	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur of the Morena Pipelines, NCPWF, San Vicente Pipeline – IRAT and – MAT. Not expected to occur within the remaining components, which are outside theThe site is outside of the species' known geographic range. Not expected to occur
		None	lagoons, bays, estuaries, mangroves, eelgrass, and seaweed beds	^	٨	٨	χ	٨	۸	٨	۸	χ	χ	٨	٨	۸	in areas that lack suitable habitat
San Diego ringneck snake	Diadophis punctatus similis	None/None/None/ None	Moist habitats including wet meadows, rocky hillsides, gardens, farmland grassland, chaparral, mixed-conifer forest, and woodland habitats	X	M	X	X	L	X	X	M	L	L	X	L	L	Moderate potential to occur within 500-foot buffer of the Morena Pipelines, San Vicente Pipeline – TAT. Low potential to occur in the 500-foot buffer of the NCPWF, San Vicente Pipeline – IRAT and – MAT, MBC, and LFG Pipeline. Not expected to occur. No suitable vegetation present.
silvery legless lizard	Anniella pulchra pulchra	None/SSC/None/ None	Stabilized dunes, beaches, dry washes, chaparral, scrubs, and pine, oak, and riparian woodlands; associated with sparse vegetation and sandy or loose, loamy soils	L	M	L	X	L	L	L	L	L	L	X	L	L	Moderate potential to occur within 500-foot buffer of the Morena Pipelines. Low potential to occur in coastal sage scrub, coast live oak woodland, and southern mixed chaparral within the 500-foot buffer of the

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Blainville's	Dhawaaana	None/SSC/None/			M	V	V						M			M	Morena Pump Station, NCWRP, NCPWF, North City Pump Station, San Vicente Pipeline, San Vicente Pipeline – TAT, – IRAT, and – MAT, MBC, and LFG Pipeline. However, there is a lack of suitable habitat available. Observed outside
horned lizard	Phrynosoma blainvillii	Covered	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley-foothill hardwood, conifer, riparian, pine—cypress, juniper, and annual grassland habitats	X	M	X	X	L	L	H	H	H	M	X	L	M	500-foot buffer of San Vicente Pipeline in southern mixed chaparral south of San Vicente Reservoir. Moderate potential to occur within the 500-foot buffer of the Morena Pipelines, San Vicente Pipeline – MAT, and LFG Pipeline. Low potential to occur in open areas of coastal sage scrub within the 500-foot buffer of the NCPWF, North City Pump Station, and MBC. However, there is a lack of suitable habitat available.

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Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
red diamondback rattlesnake	Crotalus ruber	None/SSC/None/ None	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	X	M	X	X	L	L	M	M	M	M	X	L	M	Moderate potential to occur within the 500-foot buffer of the Morena Pipelines, San Vicente Pipeline, San Vicente Pipeline – TAT, – IRAT, and – MAT, and LFG Pipeline. Low potential to occur in coastal sage scrub and coast live oak woodland within the 500-foot buffer of the NCPWF, North City Pump Station, and MBC. However, there is a lack of suitable habitat available.
San Diegan tiger whiptail	Aspidoscelis tigris stejnegeri	None/SSC/None/ None	Open areas in semiarid grasslands, scrublands, and woodlands	L	H	M	X	Н	М	Н	<u>‡D</u>	型	Н	L	M	Н	Observed within 500- foot buffer of San Vicente Pipeline – TAT and – IRAT in coastal sage scrub southeast of San Vicente Reservoir. High potential to occur within the 500- foot buffer of the Morena Pipelines, San Vicente Pipeline and San Vicente Pipeline – MAT, and LFG Pipeline. Moderate potential to occur in coastal sage scrub within the 500- foot buffer of the NCWRP, North City Pump Station, and MBC. Low potential to occur within the 500-

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur foot buffer of the Morena Pump Station, NCPWF, North City Pump Station, and MTBS. However, suitable habitat is limited. Low potential to occur in disturbed coastal sage
two-striped gartersnake	Thamnophis hammondii	None/SSC/None/ None	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	X	M	X	X	X	X	HD	M	L	L	X	X	X	scrub and non-native grassland. Not expected to occur in areas that lack suitable habitat. Observed within 500-foot buffer of San Vicente Pipeline in coastal sage scrub north of the intersection of Mission Gorge Road and Golfcrest Drive. Moderate potential to occur within 500-foot buffer of the Morena Pipelines, and San Vicente Pipeline – TAT. Low potential to occur within 500-foot buffer of the San Vicente Pipeline – IRAT. However, there is no suitable streams with rocky beds. Not expected to occur in areas that lack suitable habitat.

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Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
							,	Birds	,	, , , , ,			,			, , , ,	
burrowing owl	Athene cunicularia (burrow sites & some wintering sites)	BCC/SSC/None/ Covered	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	X	L	L	X	L	X	L	X	L	X	X	L	L	Low potential to occur in open areas of coastal sage scrub and non-native grassland within the 500-foot buffer of the Morena Pipelines, NCWRP, NCPWF, San Vicente Pipeline, San Vicente Pipeline – IRAT, MBC, and LFG Pipeline. This species' burrows would have been observed during surveys.
California black rail	Laterallus jamaicensis coturniculus	BCC/ST, FP/ None/None	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	Х	X	Х	X	Х	X	L	Х	Х	X	х	Х	X	Low potential to occur near freshwater within the 500-foot buffer of the San Vicente Pipeline. However, there is limited suitable habitat and is unlikely to occur.
ferruginous hawk	Buteo regalis (wintering)	BCC/WL/None/ Covered	Winters and forages in open, dry country, grasslands, open fields, agriculture	Х	Х	Х	Х	Х	Х	Х	Х	X	Х	Х	Х	Х	Not expected to winter in the 500-foot buffer or component impact footprints due to poor habitat quality.

Common Names	Scientific Name Ammodramus	Status (Federal/State/ Other/MSCP) None/SSC/None/	Habitat Nests and forages in	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT) X	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur Moderate potential to
grasshopper sparrow	savannarum (nesting)	None None	moderately open grassland with tall forbs or scattered shrubs used for perches	^	*	^	۸	L	^		^	^	*	^	Ĺ	IVI	occur within the 500- foot buffer of the LFG Pipeline. Low potential to occur within the 500-foot buffer of the NCPWF, San Vicente Pipeline, and MBC. There are limited open grasslands and fields, and therefore this species is unlikely to occur.
northern harrier	Circus cyaneus (nesting)	None/SSC/None/ Covered	Nests in open wetlands including marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes, but also in drier habitats such as grassland and grain fields; forages in variety of habitats, including grassland, scrubs, rangelands, emergent wetlands, and other open habitats	L	L	X	X	L	X	L	X	L	X	X	L	L	Low potential to occur within the 500-foot buffer of the Morena Pump Station, Morena Pipelines, NCPWF, San Vicente Pipeline, San Vicente Pipeline – IRAT and – MAT, MBC, and LFG Pipeline. Suitable wetland habitat for nesting is limited and therefore this species is unlikely to occur.
Swainson's hawk	Buteo swainsoni (nesting)	BCC/ST/None/ Covered	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agriculturals areas such as wheat and alfalfa fields and pasture	X	X	X	Х	X	Х	Х	Х	Х	Х	Х	X	X	Not expected to nest due to lack of suitable habitat.

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tricolored blackbird	Agelaius tricolor (nesting colony)	BCC/SSC/None/ Covered	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberrry; forages in grasslands, woodland, and agriculture	X	X	X	X	X	X	L	L	L	L	X	X	X	Low potential to nest within the 500-foot buffer of the San Vicente Pipeline, and San Vicente Pipeline – TAT, – IRAT, and – MAT. There are limited areas of freshwater and disturbed wetland for nesting.
yellow warbler	Setophaga petechia (nesting)	BCC/SSC/None/ None	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	M	HD	X	X	X	X	₩D	M	L	L	X	X	Н	Observed in several locations within 500-ft buffer of San Vicente Pipeline in southern cottonwood-willow riparian forest and SWS east and west of State Route-67 (SR-67) north of Mapleview St. Observed within 500-foot buffer of Morena Pipelines in southern arroyo willow riparian forest east of Genesee Ave and south of Noble Drive. High potential to occur within the 500-foot buffer of the LFG Pipeline. Moderate potential to occur within 500-foot buffer of the San Vicente Pipeline – TAT and Morena Pump Station adjacent to the San Diego River. Low potential to occur in southern mixed chaparral within 500-

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Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur foot buffer of San Vicente Pipeline – IRAT and – MAT. However, there is limited suitable habitat. Not expected to occur in areas that
American peregrine falcon	Falco peregrinus anatum (nesting)	FDL, BCC/SDL, FP/None/ Covered	Nests on cliffs, buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present	X	L	X	X	X	X	L	X	X	X	X	X	X	lack suitable habitat. Low potential to nest within the 500-foot buffer of the Morena Pipelines and San Vicente Pipeline. Possibly nesting locations on buildings, however it is unlikely to nest in urban area.
bald eagle	Haliaeetus leucocephalus (nesting & wintering)	FDL, BCC/SE, FP/None/ Covered	Nests in forested areas adjacent to large bodies of water, including seacoasts, rivers, swamps, large lakes; winters near large bodies of water in lowlands and mountains	X	X	X	X	X	Х	Х	L	L	L	Х	X	X	Low potential to occur within 500-foot buffer of the San Vicente Pipeline – TAT, – IRAT, and – MAT. Not expected to occur. No suitable vegetation present.
Cooper's hawk	Accipiter cooperii (nesting)	None/WL/None/ Covered	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	L	H <u>D</u>	X	X	X	X	H <u>D</u>	HD	<u>₩</u> <u>D</u>	<u>₩</u> <u>D</u>	X	X	M	Observed in several locations. Observed within 500-foot buffer of Morena Pipelines at the corner of Towne Centre Drive and Renaissance Ave within southern coast live oak riparian forest. Observed within 500-foot buffer of San Vicente Pipeline, primarily in southern cottonwood-willow riparian forest

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Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur east of Channel Road and west of SR-67. Observed within the vicinity of San Vicente Pipeline – IRAT and –
																	MAT, near San Vicente Pipeline – TAT, within southern mixed chaparral southeast of the San Vicente Reservoir. Moderate potential to occur within the 500- foot buffer of the LFG Pipeline. Low potential to occur within 500-foot buffer of the Morena Pump Station. Not expected to occur in areas that lack suitable habitat.
coastal cactus wren	Campylorhynch us brunneicapillus sandiegensis (San Diego & Orange Counties only)	BCC/SSC/None/ Covered	Southern cactus scrub patches	Х	X	X	X	X	X	Х	Х	X	X	X	X	X	Not expected to occur. No suitable vegetation present.
coastal California gnatcatcher	Polioptila californica californica	FT/SSC/None/ Covered	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level	Х	<u> </u>	₽	L	M	M	₩D	<u>₩</u> D	₩D	Н	L	₩ <u>D</u>	<u>₩</u> D	Observed in several locations. Observed within 500-foot buffer of Morena Pipelines south of SR-52 and west of Genesee Ave within disturbed coastal sage scrub. Observed within the vicinity of the NCWRP, however there is unsuitable habitat for coastal California gnatcatcher

nmon imes	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
																	within the developed land. Observed within the vicinity of NCPWF Influent Pump Station, and North City Pump Station, however there is unsuitable habitat within the proposed development, including disturbed coastal sage scrub, non native grassland, urban/developed, and disturbed habitat. Observed within the 500-foot buffer of San Vicente Pipeline, primarily in the coastal sage scrub along Mission Gorge Road east of Golfcrest Drive. Observed within the vicinity of San Vicente Pipeline – TAT and – IRAT, within coastal sage scrub southwest of San Vicente Reservoir. Observed within the vicinity of the Mission Trails Booster StationMTBS, however there is unsuitable habitat for coastal California gnateatcher including urban/developed and
																	disturbed coastal sage scrubthis species is unlikely to use the MTBS site due to

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Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
																	proximity of surrounding development and lack of quality habitat. Observed within the 500-foot buffer of the MBC within coastal sage scrub. Observed within the 500-foot buffer of the LFG Pipeline south of Miramar Road and east of Interstate-805 (I-805) within coastal sage scrub. High potential to occur within the 500-foot buffer of the San Vicente Pipeline – MAT. Not expected to occur within the vicinity of the Morena Pump Station due to lack of suitable habitat.
least Bell's vireo	Vireo bellii pusillus (nesting)	FE/SE/None/ Covered	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	M	M	X	X	X	X	HD	L	L	L	Х	M	M	Observed in several location along San Vicente Pipeline, including southern arroyo willow riparian forest north of Mission Gorge Road west of SR-52 and southern willow scrub north and south of Carlton Oaks Drive east of SR-52. Moderate potential to occur within 500-foot buffer of the Morena Pipelines and Morena Pump Station adjacent to the San Diego River

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Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
																	and within the 500-foot buffer of the MBC in San Clemente Canyon and LFG Pipeline within Rose Creek. Low potential to occur within the 500-foot buffer of the San Vicente Pipeline – TAT, – IRAT, and – MAT within proximity to San Vicente Reservoir, however due to limited suitable riparian habitat. Not expected to occur within or nearby other components due to lack of suitable habitat.
southwestern willow flycatcher	Empidonax traillii extimus (nesting)	FE/SE/None/ Covered	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	M	<u>+M</u>	X	X	X	X	L	L	L	X	X	M	M	Observed within 500- foot buffer of San Vicente Pipeline in southern riparian forest south of SR-52 and east of I-805. Moderate potential to nest within the 500- foot buffer of the Morena Pump Station and Morena Pipelines adjacent to the San Diego River and within the 500-foot buffer of the MBC in San Clemente Canyon and LFG Pipeline within Rose Creek. Low potential to occur in coast live oak woodland near the San Vicente Reservoir within the

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur 500-foot buffer of the
																	San Vicente Pipeline - TAT and - IRAT. Not expected to occur in areas that lack suitable habitat.
white-tailed kite	Elanus leucurus (nesting)	None/FP/None/ None	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	L	M	L	X	HD	X	M	M	L	X	X	M	M	Observed within the 500-foot buffer of the NCPWF. Moderate potential to nest within 500-foot buffer of the Morena Pipelines, San Vicente Pipeline, San Vicente Pipeline – TAT, MBC, and LFG Pipeline. Low potential to nest in woodland or riparian trees within the 500-foot buffer of the Morena Pump Station, NCWRP, San Vicente Pipeline – IRAT, MBC, and LFG Pipeline. There is limited suitable habitat, and therefore this species is unlikely to nest.
yellow- breasted chat	Icteria virens (nesting)	None/SSC/None/ None	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	M	M	X	X	X	X	H <u>D</u>	L	L	X	Х	M	H	Observed in several locations along San Vicente Pipeline, including in SWS north and south of Calton Oaks Drive east of SR-67. High potential to occur within the 500-foot buffer of the LFG Pipeline. Moderate potential to occur

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur within the 500-foot buffer of the Morena Pipelines, MBC, and Morena Pump Station adjacent to the San Diego River. Low potential to occur within 500-foot buffer of the San Vicente Pipeline – TAT and – IRAT. However, suitable riparian habitat is limited. Not expected to occur in areas that lack suitable habitat.
golden eagle	Aquila chrysaetos (nesting & wintering)	BCC/FP, WL/ None/Covered	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	X	X	X	X	X	X	L	L	L	L	Х	X	L	Low potential to nest and winter within the 500-foot buffer of the San Vicente Pipeline, San Vicente Pipeline – TAT, – IRAT, and – MAT, and LFG Pipeline. There are limited open shrublands and grasslands, and therefore this species is unlikely to nest and winter.
prairie falcon	Falco mexicanus (nesting)	BCC/WL/None/ None	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	X	X	X	X	X	X	X	X	X	X	X	X	X	Not expected to nest. There is no suitable vegetation for nesting.

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
southern California rufous- crowned sparrow	Aimophila ruficeps canescens Passerculus	None/WL/None/ Covered	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	X	M X	L	X	X	L	HD	H	<u>₩</u> D	H	L	X	X	Observed in several locations within 500-foot buffer of San Vicente Pipeline in coastal sage scrub along Mission Gorge Road in Mission Trails Regional Park. Observed within 500-foot buffer of San Vicente Pipeline – IRAT within coastal sage scrub southeast of San Vicente Reservoir. Moderate potential to occur within the 500-foot buffer of the Morena Pipelines, NCPWF, MBC, and LFG Pipeline in open coastal sage scrub. Low potential to occur within the 500-foot buffer of the NCWRP, North City Pump Station, and MTBS due to limited suitable habitat. However, suitable habitat is limited. Low potential to occur in areas of disturbed coastal sage scrub. Not expected to occur in areas that lack suitable habitat. Not expected to
Belding's savannah sparrow	Passerculus sandwichensis beldingi	None/SE/None/ Covered	Nests and forages in coastal saltmarsh dominated by pickleweed (Salicornia spp.)	X	X	Х	X	X	X	X	X	X	X	X	X	X	Not expected to occur. No suitable vegetation present.

Common Names Bell's sage	Scientific Name Artemisiospiza	Status (Federal/State/ Other/MSCP) BCC/WL/None/	Habitat Nests and forages in	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur Low potential to occur
sparrow	belli belli	None	coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses more open habitat in winter														within the 500-foot buffer of the Morena Pipelines, NCPWF, San Vicente Pipeline, San Vicente Pipeline – TAT, – IRAT, and – MAT, and LFG Pipeline. There is limited coastal sage scrub and chamise chaparral, and therefore this species is unlikely to occur.
California brown pelican	Pelecanus occidentalis californicus (nesting colonies & communal roosts)	FDL/SDL, FP/ None/Covered	Forages in warm coastal marine and estuarine environments; in California, nests on dry, rocky offshore islands	Х	X	Х	Х	Х	Х	Х	Х	Х	Х	X	Х	Х	Not expected to occur. No suitable vegetation present.
California horned lark	Eremophila alpestris actia	None/WL/None/ None	Nests and forages in grasslands, disturbed lands, agriculture, and beaches; nests in alpine fell fields of the Sierra Nevada	X	X	L	X	L	X	M	L	L	L	X	L	M	Moderate potential to occur within 500-foot buffer of the San Vicente Pipeline and LFG Pipeline. Low potential to occur within the 500-foot buffer of the NCWRP, NCPWF, San Vicente Pipeline – TAT, – IRAT, and – MAT, and MBC. There is limited non-native grassland and disturbed habitat, and therefore it is unlikely to occur.

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
California least tern	Sternula antillarum browni (nesting colony)	FE/SE, FP/None/ Covered	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	X	X	X	X	X	X	X	X	X	X	X	X	X	Not expected to nest. No suitable nesting vegetation present.
double- crested cormorant	Phalacrocorax auritus (nesting colony)	None/WL/None/ None	Nests in riparian trees near ponds, lakes, artificial impoundments, slow- moving rivers, lagoons, estuaries, and open coastlines; winter habitat includes lakes, rivers, and coastal areas	Х	X	Х	X	X	X	Х	L	L	L	X	X	Х	Low potential to nest within the 500-foot buffer of the San Vicente Pipeline – TAT, – IRAT, and – MAT. There is limited nesting vegetation near the San Vicente Reservoir, however it is unlikely to nest.
elegant tern	Thalasseus elegans (nesting colony)	None/WL/None/ Covered	Inshore coastal waters, bays, estuaries, and harbors; forages over open water	Х	Х	Х	Х	Х	Х	Х	X	X	Х	Х	X	Х	Not expected to occur. No suitable vegetation present.
large-billed savannah sparrow	Passerculus sandwichensis rostratus (wintering)	None/SSC/None/ Covered	Nests and forages in open, low saltmarsh vegetation, including low halophytic scrub	Х	Х	X	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. No suitable vegetation present.
least bittern	Ixobrychus exilis (nesting)	BCC/SSC/None/ None	Nests in freshwater and brackish marshes with dense, tall growth of aquatic and semi-aquatic vegetation	Х	L	X	X	Х	X	Х	L	L	L	X	X	X	Low potential to nest within the 500-foot buffer of the Morena Pipelines, San Vicente Pipeline, and San Vicente Pipeline - TAT, - IRAT, and - MAT. There are limited freshwater habitats, however there is no suitable dense aquatic vegetation for nesting.

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
long-billed curlew	Numenius americanus (nesting)	BCC/WL/None/ Covered	Nests in grazed, mixed grass, and short-grass prairies; localized nesting along the California coast; winters and forages in coastal estuaries, mudflats, open grassland, and cropland	Х	X	X	X	X	X	X	X	X	X	X	X	X	Not expected to occur. No suitable vegetation present.
mountain plover	Charadrius montanus (wintering)	BCC/SSC/None/ Covered	Winters in shortgrass prairies, plowed fields, open sagebrush, and sandy deserts	X	X	X	X	X	X	X	X	X	X	X	X	X	Not expected to winter in the 500-foot buffer or component impact footprints due to poor habitat quality.
osprey	Pandion haliaetus (nesting)	None/WL/None/ None	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast	X	X	X	X	X	Х	X	X	L	M	X	X	Х	Moderate potential to nest within 500-foot buffer of the San Vicente Pipeline – MAT. Low potential to nest within the 500-foot buffer of the San Vicente Pipeline – IRAT. There is limited forested areas near San Vicente Reservoir, and therefore it is unlikely for this species to nest.
western snowy plover	Charadrius alexandrinus nivosus (nesting)	FT, BCC/SSC/ None/Covered	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	X	X	Х	X	X	Х	X	X	Х	X	X	X	Х	Not expected to nest. No suitable nesting vegetation present.

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat Needs in deeps with	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
western yellow-billed cuckoo	Coccyzus americanus occidentalis (nesting)	FT, BCC/SE/ None/None	Nests in dense, wide riparian woodlands and forest with well- developed understories	X	X	X	X	X	X	X	X	X	X	X	X	X	Not expected to nest. No suitable nesting vegetation present.
white-faced ibis	Plegadis chihi (nesting colony)	None/WL/None/ Covered	Nests in shallow marshes with areas of emergent vegetation; winter foraging in shallow lacustrine waters, flooded agricultural fields, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields, and estuaries	X	X	X	X	X	X	X	X	L	L	X	X	X	Low potential to nest within the 500-foot buffer of the San Vicente Pipeline – IRAT and – MAT. There is limited suitable habitat, and therefore it is unlikely for this species to nest.
Canada goose	Branta canadensis	None/None/ Covered	Lakes, rivers, ponds, and other bodies of water; yards, park lawns, and agricultural fields	X	X	X	X	X	X	X	L	L	L	X	X	L	Low potential to occur within the 500-foot buffer of the San Vicente Pipeline – TAT, – IRAT, and – MAT, and LFG Pipeline. There is limited suitable habitat near the San Vicente Reservoir, however it is unlikely for this species to occur.
reddish egret	Egretta rufescens	None/None/None/ Covered	Freshwater marsh with emergent vegetation; in the Central Valley primarily nests and forages in rice fields and other flooded agricultural fields with weeds and other residual aquatic vegetation	X	X	X	X	X	X	L	X	X	X	X	X	X	Low potential to nest in coastal and valley freshwater marsh within the 500-foot buffer of the San Vicente Pipeline. There is limited suitable habitat, and therefore it is unlikely for this species to nest.

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
western bluebird	Sialia mexicana	None/None/Covered	Nests in old-growth red fir, mixed-conifer, and lodgepole pine habitats near wet meadows used for foraging	L	M	L	X		L	<u>₩D</u>	L	L		X	L	M	Observed within 500- foot buffer of San Vicente Pipeline in SWS near open water in east of SR-67 and south of Willow Road near San Vicente Creek. Moderate potential to occur within 500-foot buffer of the Morena Pipelines and LFG Pipeline. Low potential to occur within 500-foot buffer of the Morena Pump Station, NCWRP, NCPWF, North City Pump Station, San Vicente Pipeline – TAT, – IRAT, and – MAT, and MBC. Not expected to occur in areas that lack suitable habitat.
Ridgway's rail	Rallus obsoletus levipes	FE/SE, FP/None/ Covered	Coastal wetlands, brackish areas, coastal saline emergent wetlands	L	X	X	X	X	X	X	X	X	X	X	X	X	Low potential to occur within the 500-foot buffer of the Morena Pump Station. However, there is limited suitable habitat available, and therefore it is unlikely for this species to occur.
Pacific	Perognathus	FE/SSC/None/	Fine-grained sandy	Х	Х	Х	X Ma	ammals X	Х	X	Х	Х	Х	Х	Х	Х	Not expected to
pocket mouse	longimembris pacificus	None	substrates in open coastal strand, coastal dunes, and river alluvium														occur. No suitable vegetation present.

Common Names San Diego	Scientific Name Neotoma lepida	Status (Federal/State/ Other/MSCP) None/SSC/None/	Habitat Coastal scrub, desert	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur Low potential to occur
desert woodrat	intermedia	None	scrub, chaparral, cacti, rocky areas				·		,		_		,	,	,		in coastal sage scrub within the 500-foot buffer of the San Vicente Pipeline – TAT. There is limited suitable vegetation.
big free- tailed bat	Nyctinomops macrotis	None/SSC/ WBWG:MH/ None	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	Х	X	X	X	Х	X	Х	X	X	X	X	X	X	Not expected to occur. No suitable vegetation present.
long-eared myotis	Myotis evotis	None/None/ WBWG:M/None	Nearly all brush, woodland, and forest habitats from sea level to 9,000 feet above mean sea level, but prefers coniferous habitats; forages along habitat edges, in open habitats, and over water; roosts in buildings, crevices, under bark, and snags; uses caves as night roosts	X	L	X	X	X	X	X	X	X	X	X	X	X	Low potential to occur within 500-foot buffer of the Morena Pipelines. Not expected to occur in areas that lack suitable habitat.
pallid bat	Antrozous pallidus	None/SSC/ WBWG:H/None	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	Х	M	Х	X	M	X	M	X	X	X	X	X	M	Moderate potential to occur within the 500-foot buffer of the Morena Pipelines, NCPWF, San Vicente Pipeline, and LFG Pipeline. There is limited suitable vegetation present.

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
western small-footed myotis	Myotis ciliolabrum	None/None/ WBWG:M/None	Arid woodlands and shrublands, but near water; roosts in caves, crevices, mines, abandoned buildings	Х	L	Х	X	X	Х	X	X	X	X	X	X	X	Low potential to occur within 500-foot buffer of the Morena Pipelines. Not expected to occur in areas that lack suitable habitat.
Yuma myotis	Myotis yumanensis	None/None/ WBWG:LM/ None	Riparian, arid scrublands and deserts, and forests associated with water (streams, rivers, tinajas); roosts in bridges, buildings, cliff crevices, caves, mines, and trees	M	M	X	X	X	X	M	X	X	X	X	X	X	Moderate potential to occur within the 500-foot buffer of the Morena Pump Station, Morena Pipelines, and San Vicente Pipeline. There is limited suitable vegetation present.
American badger	Taxidea taxus	None/SSC/None/ Covered	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Х	X	Х	Х	X	Х	L	L	L	L	X	L	L	Low potential to occur within the 500-foot buffer of the San Vicente Pipeline, San Vicente Pipeline – TAT, – IRAT, and – MAT, and LFG Pipeline. There is limited suitable vegetation present.
Dulzura pocket mouse	Chaetodipus californicus femoralis	None/SSC/None/ None	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed-conifer habitats; disturbance specialist; 0 to 3,000 feet above mean sea level	Х	L	L	X	L	L	L	L	L	L	Х	L	L	Low potential to occur within the 500-foot buffer of the Morena Pipelines, NCWRP, NCPWF, North City Pump Station, San Vicente Pipeline, San Vicente Pipeline – TAT, – IRAT, and – MAT, and LFG Pipeline. There is limited suitable vegetation present.

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
hoary bat	Lasiurus cinereus	None/None/ WBWG:M/None	Forest, woodland riparian, and wetland habitats; also juniper scrub, riparian forest, and desert scrub in arid areas; roosts in tree foliage and sometimes cavities, such as woodpecker holes	L	L	Х	X	X	X	L	X	X	X	X	X	X	Low potential to occur within the 500-foot buffer of the Morena Pump Station, Morena Pipelines, and San Vicente Pipeline. There is limited suitable vegetation present.
Mexican long-tongued bat	Choeronycteris mexicana	None/SSC/ WBWG:H/None	Desert and montane riparian, desert scrub, desert scrub, and pinyon–juniper woodland; roosts in caves, mines, and buildings	Х	X	Х	X	Х	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. No suitable vegetation present.
northwestern San Diego pocket mouse	Chaetodipus fallax fallax	None/SSC/None/ None	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon—juniper, and annual grassland	X	L	Х	X	L	L	L	L	L	L	X	L	L	Low potential to occur within the 500-foot buffer of the Morena Pipelines, NCPWF, North City Pump Station, San Vicente Pipeline, San Vicente Pipeline – TAT, – IRAT, and LFG Pipeline. There is limited suitable vegetation present.

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
pocketed free-tailed bat	Nyctinomops femorosaccus	None/SSC/ WBWG:M/None	Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with dropoffs, caverns, and buildings	X	X	X	X	X	X	X	X	X	X	X	X	X	Not expected to occur. No suitable vegetation present.
San Diego black-tailed jackrabbit	Lepus californicus bennettii	None/SSC/None/ None	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	X	L	L	X	L	L	M	L	L	L	X	L	M	Moderate potential to occur within 500-foot buffer of the San Vicente Pipeline, and LFG Pipeline. Low potential to occur within the 500-foot buffer of the Morena Pipelines, NCWRP, NCPWF, North City Pump Station, San Vicente Pipeline – TAT, – IRAT, and – MAT, and MBC. There is limited suitable vegetation present.

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
silver-haired bat	Lasionycteris noctivagans	None/None/ WBWG:M/None	Old-growth forest, maternity roosts in trees (primarily woodpecker hollows), large-diameter snags 50 feet aboveground; hibernates in hollow trees, under sloughing bark, in rock crevices, and occasionally in buildings, mines, and caves; forages in or near coniferous or mixed deciduous forest, often following stream or river drainages	X	X	X	X	X	X	Х	X	X	X	X	X	X	Not expected to occur. No suitable vegetation present.
spotted bat	Euderma maculatum	None/SSC/ WBWG:H/None	Foothills, mountains, desert regions of southern California, including arid deserts, grasslands, and mixed-conifer forests; roosts in rock crevices and cliffs; feeds over water and along washes	X	X	X	Х	X	X	X	Х	X	X	X	X	X	Not expected to occur. No suitable vegetation present.
Stephens' kangaroo rat	Dipodomys stephensi	FE/ST/None/ None	Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas	Х	Х	Х	Х	X	X	X	Х	Х	Х	Х	X	Х	Not expected to occur. This study area is outside of this species' geographic range.

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Townsend's big-eared bat	Corynorhinus townsendii	None/SC, SSC/WBWG:H/ None	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	L	L	X	X	X	X	L	X	Х	Х	X	X	X	Low potential to occur within 500-foot buffer of the Morena Pump Station, Morena Pipelines, and San Vicente Pipeline. There is limited suitable vegetation present.
western mastiff bat	Eumops perotis californicus	None/SSC/ WBWG:H/None	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	X	L	X	X	L	X	L	L	L	L	X	L	L	Low potential to occur within the 500-foot buffer of the Morena Pipelines, NCPWF, San Vicente Pipeline, San Vicente Pipeline – TAT, – IRAT, and – MAT, MBC, and LFG Pipeline. There is limited suitable vegetation present.
western red bat	Lasiurus blossevillii	None/SSC/ WBWG:H/None	Forest, woodland, riparian, mesquite bosque, and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy	L	L	X	X	Х	X	L	L	L	L	Х	Х	Х	Low potential to occur within the 500-foot buffer of the Morena Pump Station, Morena Pipelines, San Vicente Pipeline, and San Vicente Pipeline – TAT, – IRAT, and – MAT. There is limited suitable vegetation present.
western yellow bat	Lasiurus xanthinus	None/SSC/ WBWG:H/None	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	Х	X	Х	X	Х	X	X	X	X	Х	X	X	Х	Not expected to occur. No suitable vegetation present.

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Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
cougar	Puma concolor	None/None/None/ Covered	Scrubs, chaparral, riparian, woodland, and forest; rests in rocky areas and on cliffs and ledges that provide cover; most abundant in riparian areas and brushy stages of most habitats throughout California, except deserts	X	X	X	X	X	X	M	М	M	M	X	L	L	Moderate potential to occur within 500-foot buffer of the San Vicente Pipeline, San Vicente Pipeline – TAT, – IRAT, and – MAT. Low potential to occur within the 500-foot buffer of the MBC, and LFG Pipeline. There is limited suitable vegetation present.
mule deer	Odocoileus hemionus	None/None/ Covered	Coastal sage scrub, chaparral, riparian, woodlands, and forest; often browses in open area adjacent to cover throughout California, except deserts and intensely farmed areas	L	L	L	X	L	X	<u>₩D</u>	Н	H	H	L	M	M	Observed within 500- foot buffer of San Vicente Pipeline in coastal sage scrub north of Mission Gorge Road within Mission Trails Regional Park. Moderate potential to occur within 500-foot buffer of the MBC, and LFG Pipeline. Low potential to occur within 500-foot buffer of the Morena Pump Station, Morena Pipelines, NCPWF, and NCWRP. Not expected to occur in areas with lack of suitable habitat.
Riverside	Streptocephalus	FE/None/None/	Vernal pools, non-	Х	X	L	X	L	L	L	Х	X	Х	Х	Х	Х	Low potential in areas
fairy shrimp	woottoni	Covered	vegetated ephemeral pools														with vernal pools within the 500-foot buffer of the NCWRP, NCPWF, North City Pump Station, and San Vicente Pipeline.

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur Would have been observed during focused survey. Not observed during focused surveys.
San Diego fairy shrimp	Branchinecta sandiegonensis	FE/None/None/ Covered	Vernal pools, non-vegetated ephemeral pools	X	X	L	X	X	L	D	X	X	X	X	X	D	Observed within the 500-foot buffer of or adjacent to two project component containing vernal pools: the LFG Pipeline, and San Vicente – Repurposed Pipeline. Focused surveys for this species at the NCPWF in 2015/2016 and 2017 were negative. Low potential in areas with vernal pools within the 500-foot buffer of the NCWRP, North City Pump Station, and San Vicente Pipeline. Would have been observed during 2015/16 focused surveys.
obscure bumble bee	Bombus caliginosus	None/None/SS/ None	Relatively humid or foggy areas of the Pacific coast south to central California. Food plants include Baccharis, Cirsium, Grindelia, Phacelia, Arctostaphylos, Eriodictyon, Ceanothus, Adenostoma, and Mimulus	X	X	Х	X	X	X	L	L	L	L	X	X	X	Low potential to occur within the 500-foot buffer of the San Vicente Pipeline, and San Vicente Pipeline – TAT, – IRAT, and – MAT. There is limited suitable vegetation present.

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Crotch bumble bee	Bombus crotchii	None/None/SS/ None	Open scrub habitats and grassland in coastal California east to the Sierra- Cascade crest and south into Mexico. Food plants include Asclepias, Chaenactis, Lupinus, Medicago, Phacelia, and Salvia	X	X	X	X	X	X	L	L	L	L	X	L	L	Low potential to occur within the 500-foot buffer of the San Vicente Pipeline, San Vicente Pipeline – TAT, – IRAT, and – MAT, MBC, and LFG Pipeline. There is limited suitable vegetation present.
globose dune beetle	Coelus globosus	None/None/SS/ None	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile Creek in Mendocino County south to Ensenada, Mexico	X	X	Х	Х	Х	Х	Х	Х	Х	Х	X	Х	Х	Not expected to occur. No suitable vegetation present.
mesa shoulderband	Helminthoglypta coelata	None/None/SS/ None	Known only from a few locations in coastal San Diego County	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. No suitable vegetation present.
mimic tryonia (=California brackishwater snail)	Tryonia imitator	None/None/SS/ None	Inhabits coastal lagoons, estuaries, and saltmarshes, from Sonoma County south to San Diego County	Х	Х	Х	Х	Х	Х	Х	Х	Х	X	Х	Х	Х	Not expected to occur. No suitable vegetation present.
sandy beach tiger beetle	Cicindela hirticollis gravida	None/None/SS/ None	Inhabits areas adjacent to non- brackish water along the coast of California from San Francisco Bay to northern Mexico	Х	X	Х	X	X	Х	Х	Х	Х	X	Х	X	Х	Not expected to occur. No suitable vegetation present.
senile tiger beetle	Cicindela senilis frosti	None/None/SS/ None	Inhabits marine shoreline, from Central California coast south to saltmarshes of San Diego; also found at Lake Elsinore	X	X	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Not expected to occur. No suitable vegetation present.

Common Names	Scientific Name	Status (Federal/State/ Other/MSCP)	Habitat	Morena Pump Station	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	North City Water Reclamation Plant Expansion (NCWRP)	North City Pure Water Facility – Influent Pump Station (NCPWF Influent Pump Station)	North City Pure Water Facility (NCPWF)	North City Pure Water Pump Station (North City Pump Station)	San Vicente Pure Water Pipeline (San Vicente Pipeline)	San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	San Vicente Pipeline – In- Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	San Vicente Pipeline – Marine Alternative Terminus (San Vicente Pipeline – MAT)	Mission Trails Booster Station (MTBS)	Metro Biosolids Center (MBC)	Landfill Gas Pipeline (LFG Pipeline)	Potential to Occur
Thorne's hairstreak	Callophrys thornei	None/None/SS/ Covered	Interior cypress woodland dominated by host plant Hesperocyparis forbesii (Tecate cypress)	X	X	X	Х	X	X	X	X	X	X	X	X	X	Not expected to occur. Tecate cypress was not observed during surveys.
western beach tiger beetle	Cicindela latesignata latesignata	None/None/SS/ None	Mudflats and beaches in coastal Southern California	X	X	X	Х	Х	Х	X	X	Х	Х	X	Х	Х	Not expected to occur. No suitable vegetation present.
western tidal-flat tiger beetle	Cicindela gabbii	None/None/SS/ None	Inhabits estuaries and mudflats along the coast of Southern California	X	X	X	X	X	Х	X	X	X	X	X	X	X	Not expected to occur. No suitable vegetation present.
California mellitid bee	Melitta californica	None/None/SS/ None	Desert regions of southwestern Arizona, southeastern California, and Baja California, Mexico; also collected from Torrey Pines, San Diego County	X	X	X	X	X	X	Х	X	X	X	Х	X	X	Not expected to occur. No suitable vegetation present.
Hermes copper	Lycaena hermes	FC/None/None/ None	Mixed woodlands, chaparral, and coastal scrub	X	X	X	X	X	X	L	X	X	X	X	X	L	Low potential to occur in suitable habitat with host plants (<i>Rhamnus crocea</i> and <i>Eriogonum fasciculatum</i>) within the 500-foot buffer San Vicente Pipeline, and LFG Pipeline. Would have been observed during focused surveys. Not expected to occur in areas lacking suitable habitat.

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monarch	Danaus plexippus	None/None/SS/ None	Wind-protected tree groves with nectar sources and nearby water sources	L	M	L	X	L	L	M	M	M	M	X	X	M	Observed during QCB surveys, however low potential to overwinter on site due to limited suitable habitat and outside of known geographic range. Moderate potential to occur within 500-foot buffer of the Morena Pipelines, San Vicente Pipeline, San Vicente Pipeline – TAT, – IRAT, and – MAT, and LFG Pipeline. Low potential to occur within 500-foot buffer of the Morena Pump Station, NCWRP, NCPWF, and North City Pump Station.
quino checkerspot	Euphydryas editha quino	FE/None/None/ None	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and finetextured clay; host plants include Plantago erecta (dwarf plantain), Antirrhinum coulterianum (white snapdragon), and Plantago patagonica (woolly plantain)	X	X	L	X	X	X	L	L	L	L	Х	L	L	Low potential to occur within the 500-foot buffer of the NCWRP, San Vicente Pipeline, San Vicente Pipeline – TAT, – IRAT, and – MAT, MBC, and LFG Pipeline. Although suitable habitat (adult nectar plants and larvae host plants) occurs within the alignment, focused surveys conducted in 2016 were negative.

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wandering skipper	Panoquina errans	None/None/SS/ Covered	Saltmarsh	X	X	X	X	X	Х	X	Х	Х	Х	X	X	Х	Not expected to occur. No suitable vegetation present.

Notes:

Notes:

D = detected within the component or 500-foot buffer

M = moderate potential (suitable habitat and species observed elsewhere within the project)

L = low potential (suitable habitat but surveys were negative)

X = not expected (no suitable habitat and/or outside elevation range)

Status Notes:

FE: Federally Endangered

FT: Federally Threatened

FC: Federal Candidate

FDI: Federally Delicted

FC: Federal Candidate
FDL: Federally Delisted
BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern
SSC: California Species of Special Concern
FP: California Fully Protected Species
WL: California Watch List Species
SE: State Endangered
ST: State Threatened

SDL: State Delisted

SS: List Special Animals List, but no other status WBWG: Western Bat Working Group

H: High HM: High-Medium

M: Medium

LM: Low-Medium L: Low

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