INDIVIDUAL BIOLOGICAL ASSESSMENT REPORT

Site Name/Facility:	South Chollas Creek Channel
Master Program Map No.:	101
Date:	May 18, 2018 (Revised August 21, 2018)
Biologist Name/Cell Phone No.:	Katie Bellon / 619-462-1515

Instructions: This form must be completed for each storm water facility identified in the Annual Maintenance Needs Assessment report and prior to commencing any maintenance activity on the facility. The Existing Conditions information shall be collected prior to preparation of the Individual Maintenance Plan (IMP) to assist in developing the IMP. The remaining sections shall be completed after the IMP has been prepared. Attach additional sheets as needed.

EXISTING CONDITIONS

The City of San Diego (City) has developed the Master Storm Water System Maintenance Program (Master Maintenance Program [MMP]; City 2011a) to govern channel operation and maintenance activities in an efficient, economic, environmentally, and aesthetically acceptable manner to provide flood control for the protection of life and property. This document provides a summary of the Individual Biological Assessment (IBA) for proposed maintenance activities within the South Chollas Creek Channel Map 101 (Map 101). The IBA is prepared to comply with the MMP's Programmatic Environmental Impact Report (PEIR; City 2011b). Map numbers correspond to those contained in the MMP.

The IBA procedures under the MMP provide the guidelines for a site-specific inspection of the proposed maintenance activity site including access routes (i.e., loading areas), and temporary spoils storage and staging areas. A qualified biologist determines whether or not sensitive biological resources could be affected by the proposed maintenance and potential ways to avoid impacts in accordance with the measures identified in the Mitigation, Monitoring, and Reporting Program (MMRP; Attachment 1) of the PEIR and the MMP protocols. This IBA provides a summary of the biological resources associated with the storm water facility, quantification of impacts to sensitive biological resources, and the nature of mitigation measures required to mitigate for those impacts, if any are found.

Survey Methods and Date(s)

Prior to performing field surveys, HELIX Environmental Planning, Inc. (HELIX) conducted a review of existing project documentation and permits as part of this IBA. Document review included the MMP, PEIR (City 2011b), and Appendices.

Potential occurrence of special-status species within the project site was determined by a habitat suitability assessment, a review of records from the California Natural Diversity Database (CNDDB), species occurrence data from the U.S. Fish and Wildlife Service (USFWS) Carlsbad Office's Listing of Multiple Species Database, and the California Native Plant Society (CNPS) rare plant online inventory. A one-mile radius was used to specifically assess the potential for sensitive species for South Chollas Creek Channel Map 101 maintenance area.

Upon completion of the original research, HELIX conducted an initial biological survey and site assessment, including a California Rapid Assessment Method (CRAM) of wetland conditions of Map 101 on December 7, 2016 (Attachment 2). HELIX also conducted eight surveys for least Bell's vireo (*Vireo bellii pusillus*; LBVI) for all areas of suitable habitat within the South Chollas Creek between April 11 and June 30, 2017. Surveys were conducted on foot and achieved 100 percent visual coverage of all suitable habitat (HELIX 2017; Attachment 6).

Vegetation communities were mapped in accordance with the City's Biology Guidelines (City 2012) and following classifications described by Holland (1986). Data collected during surveys included comprehensive species lists, habitat suitability assessments for sensitive species, and data for completion of a CRAM following the methods outlined in the User's Manual: *California Rapid Assessment Method for Wetlands and Riparian Areas v. 6.1* (California Wetlands Monitoring Workgroup [CWMW] 2013) and other training materials located on the CRAM website (www.cramwetlands.org). Vegetation communities and sensitive species were mapped on a 100-scale (1 inch = 100 feet) map with a 2014 aerial photograph base map. Representative photographs were taken during the survey and are provided in this report. Plants were identified according to The Jepson Manual: Vascular Plants of California (Baldwin et al. 2012).

Project Location and Description

The purpose of the project is to maintain the existing storm water facilities by restoring the original design capacity to provide public safety and protection of property. The City is proposing to maintain South Chollas Creek Channel Map 101 through the removal of trash, debris, vegetation, and accumulated sediment.

South Chollas Creek Channel Map 101 is located in the Emerald Hills Community in the City of San Diego east of Interstate 805, west of State Route 125, and immediately south of State Route 94 (Figure 1). The channel runs through a commercial area between Federal Boulevard and Winnett Street (Figures 2 and 3). The channel is located in un-sectioned lands on the National City U.S. Geological Survey (USGS) 7.5-minute quadrangle map (Figure 2).

The channel, staging area, and loading areas in Map 101 are zoned RS-1-7 (Residential-Single Unit) and CO-2-1 (Commercial Office). According to the Federal Emergency Management Agency (FEMA), the channel is located within the 100-year floodway. Additionally, the FEMA Flood Insurance Rate Map (FIRM) for the project vicinity shows that the project is located within the Special Flood Hazard Areas Subject to Inundation by the 1% Annual Chance Flood as well as the 0.2% Annual Chance Flood areas. The channel is located within the Pueblo San Diego Hydrologic Unit and San Diego Bay Watershed Management Area. The site is not located but is adjacent to the MHPA which is located approximately 500 feet downstream to the west; however, no portion of the project is located within the Coastal Zone.

To facilitate the Individual Hydrology and Hydraulic Assessment (IHHA) prepared for the maintenance, Map 101 was subdivided into three reaches (Rick Engineering 2017) which are discussed in greater detail below. Maintenance activities within Map 101 would occur within Reaches 2 and 3. This IBA evaluates routine maintenance, staging, and loading areas currently proposed by the City of San Diego.

South Chollas Creek, Map 101, Reaches 2 and 3

The maintenance area of Map 101 runs approximately 1,420 feet southwest from Winnett Street to Federal Boulevard, bordering the southern side of State Route 94, flowing from east to west. It is composed of a trapezoidal channel with both earthen and concrete-lined bottom and both concrete and rip-rap-armored earthen banks. Reach 2 encompasses the downstream, earthen portion of the channel and is densely-vegetated with southern riparian forest. Reach 2 is approximately 600 feet long, however, the maintenance area includes only 50 feet at the upstream end of the reach lined by 2-ton rip-rap. Reach 2 has a top width of 28 feet, a bottom width of 24 feet, and depth of 6 feet. Reach 3 is contiguous to the upstream extent of Reach 2, extending to the east. Reach 3 is concrete-lined and measures approximately 1,370 feet in length. Reach 3 has a top width of 28 feet, bottom width of 8 feet, and depth of approximately 5-9 feet. Map 101 receives storm flow from the channel upstream located in the City of Lemon Grove, adjacent slopes, and storm water infrastructure. The channel eventually flows to the west under Federal Boulevard.

Biological Resources: **Stream Type**: **Perennial ☐ Intermittent ☐ Ephemeral ▣**

Stream type designations are based on USGS topographical map stream designations and field visit review of the channels. South Chollas Creek is shown on the USGS National City quadrangle map. Both reaches are presumed to have ephemeral sources of water from urban runoff.

Vegetation:

For purposes of this IBA, only vegetation or land covers within the proposed maintenance areas, including associated work areas (i.e., loading and staging areas), are described below.

A total of four vegetation communities or land cover types were identified during the initial biological survey and site assessment: southern riparian forest (including disturbed phase), streambed/natural flood channel (concrete-lined), Diegan coastal sage scrub (disturbed), and developed land (concrete channel banks and parking lots) (Table 1; Figure 4). See PEIR Appendix D.1 (Biological Resources Report) for general descriptions of vegetation communities/land cover types (City 2011b). A list of plant species observed during the December 2016 surveys is provided as Attachment 3.

Table 1
EXISTING VEGETATION COMMUNITIES (acre[s])[1]

Map/Reach[2]	Channel Type	WETLANDS[3]	NON-WETLAND[3]	TOTAL
		SRF	STM/NFC	
South Chollas Creek Map 101 (Reaches 2 & 3)	Earthen	0.04	--	0.04
	Concrete	--	0.16	0.16
	Wetlands Total	**0.04**	**0.16**	**0.20**
	UPLANDS[3]			
		Tier II	**Tier IV**	**TOTAL**
		DCSS	**DEV**	
		0.04	1.58	1.62
	Uplands Total	**0.04**	**1.58**	**1.62**
			GRAND TOTAL	**1.82**

[1] Habitats are rounded to the nearest 0.01 acre
[2] Map Numbers from the City's MMP (2011a)
[3]Habitat acronyms: DCSS=disturbed Diegan coastal sage scrub (disturbed), DEV=developed land (includes streambed), SRF=southern riparian forest (disturbed); STM/NFC=streambed/City natural flood channel (concrete-lined channel)

As discussed above, Map 101 contains earthen-bottom as well as concrete-lined bed and banks. The channel contains southern riparian forest (disturbed), streambed/natural flood channel (concrete-lined), Diegan coastal sage scrub (disturbed), and developed land (Figure 4). Approximately 1.62 acres of upland access area and staging area are proposed as part of the Map 101 routine maintenance. These areas are primarily composed of developed areas with small patches of Diegan coastal sage scrub (disturbed). Native vegetation communities within Map 101 that contain more than 20% non-native species cover and/or obvious sign of disturbance (i.e. trash, tire tracks, vegetation clearing, etc.) are mapped as disturbed.

Vegetation communities within Map 101 are described below.

Southern Riparian Forest (disturbed, 0.04 acre)
Dense southern riparian forest habitat occurs at the western end of Reach 2. This vegetation community is dominated by mature arroyo willow (*Salix lasiolepis*) and black willow (*Salix gooddingii*)

Streambed/Natural Flood Channel (0.16 acre)
Unvegetated portions of Reach 3 (concrete-lined channel bed) are mapped as streambed/natural flood channel. This reach is largely devoid of vegetation. Isolated individuals of southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*) have grown within cracks of the concrete, primarily along the northern edge of the channel bottom. However, the areas where southwestern spiny rush occur are sparse and less than the minimum mapping unit (less than 0.01), do not support wildlife, and no sediment accumulation occurs within the channel due to high storm velocities. The plants within the channel are not aiding in sediment stabilization, sediment retention, nutrient removal or deposition, or providing floodflow alteration. Therefore, the scattered southwestern spiny rush within the concrete-lined channel do no fulfill the function of a wetland vegetation community and were not mapped as a separate community.

Diegan Coastal Sage Scrub (disturbed, 0.04 acre)
Disturbed Diegan coastal sage scrub occurs along the majority of the upland habitat surrounding the Map 101 maintenance area; however, only a narrow strip of disturbed Diegan coastal sage scrub occurs along the southern boundary of the maintenance area. Native shrubs in this area include California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), and California sagebrush.

Developed Land (1.58 acre)
Developed land is where permanent structures and/or pavement have been placed. Unvegetated, concrete-lined channels and ditches constitute the majority of the area of storm water facilities that are designated as developed land or developed/concrete channel. For Map 101, this community is composed of 0.21 acre of concrete-lined channel banks (sides) and 1.38 acres of concrete and asphalt staging areas outside of the channel. Although typically categorized as developed land, the concrete-lined channel bed (bottom) for Map 101 is considered Streambed/Natural Flood Channel. See Table 3 below.

Wildlife Value:

Most of the vegetation communities within the maintenance area provide habitat for wildlife, including potential nesting and foraging songbirds and small mammals. A list of the 16 wildlife species detected during the biological surveys and site assessment is provided as Attachment 4.

Agency Jurisdiction:

In addition to the general biological survey and site assessment, HELIX also conducted a preliminary jurisdictional delineation on December 7, 2016 (Attachment 5). The preliminary jurisdictional delineation was conducted visually (no soil pit was dug) to identify and map potential jurisdictional waters and wetlands, including waters of the U.S. (WUS) subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA); pursuant to Section 401 of the federal CWA of the Regional Water Quality Control Board (RWQCB); streambed and riparian habitat subject to the regulatory jurisdiction of the California Department of Fish and Wildlife (CDFW) pursuant to Section 1600 of the California Fish and Game Code; and wetlands pursuant to the City's Environmentally Sensitive Lands (ESL) regulations.

The USACE wetland boundaries (waters of the U.S.) were determined using three criteria (vegetation, hydrology, and soils) established for wetland delineations as described within the Wetlands Delineation Manual (Environmental Laboratory 1987) and Arid West Regional Supplement (USACE 2008). Areas were determined to be non-wetland WUS if there was evidence of regular surface flow (e.g., bed and bank and/or an Ordinary High Water Mark), but either the vegetation or soils criterion was not met.

The RWQCB jurisdictional boundaries (waters of the State) were determined based on the aquatic resources that occur within the channel. Based upon recent clarification from RWQCB staff to the City, the RWQCB boundaries within concrete-lined portions of the channel include resources that occur from top-of-bank to top-of-bank. Within the earthen portion of the channel, RWQCB boundaries are the same as the USACE boundaries described in the preceding paragraph.

The CDFW jurisdictional boundaries were determined based on the presence of riparian vegetation or regular surface flow.

City wetland boundaries were based on the definition of wetlands pursuant to the San Diego Municipal Code Section 113.0103, and include areas characterized by any of the following conditions: (1) All areas persistently or periodically containing naturally occurring wetland vegetation communities characteristically dominated by hydrophytic vegetation, including but not limited to salt marsh, brackish marsh, freshwater marsh, riparian forest, oak riparian forest, riparian woodlands, riparian scrub, and vernal pools; (2) Areas that have hydric soils or wetland hydrology and lack naturally occurring wetland vegetation communities because human activities have removed the historic wetland vegetation or catastrophic or recurring natural events or processes have acted to preclude the establishment of wetland vegetation as in the case of salt pannes and mudflats; (3) Areas lacking wetland vegetation communities, hydric soils, and wetland hydrology due to non-permitted filling of previously existing wetlands; and (4) Areas mapped as wetlands on Map C-713 as shown in Chapter 13, Article 2, Division 6 (Sensitive Coastal Overlay Zone).

The existing jurisdictional areas for the various agencies are illustrated in Tables 2 and 3 and depicted on Figure 6.

Table 2
EXISTING USACE AND RWQCB JURISDICTIONAL AREAS (acre[s])[1]

Map (Reach)[2]	Channel Type	Wetland Waters of US/State[3]		Non-Wetland Waters of US/State[3]		Total USACE	Total RWQCB[5]
		SRF	Total Wetland	STM	DEV[4]		
S. Chollas Creek Map 101 (Reaches 2 & 3)	Earthen	0.04	0.04	--	--	0.04	0.04
	Concrete	--	--	0.16	0.21	0.16	0.36
	Total	**0.04**	**0.04**	**0.16**	**0.21**	**0.20**	**0.40**

[1] Habitats are rounded to the nearest 0.01 acre
[2]Map Numbers from the City's MMP (2011)
[3]Habitat acronyms: DEV=developed land (concrete portions of the channel banks), SRF=southern riparian forest (disturbed), STM=streambed (concrete-lined channel)
[4] RWQCB jurisdiction only (concrete-lined channel banks above the Ordinary High Water Mark)
[5] Total existing RWQCB acreage is 0.40 acre, including 0.04 of wetlands and 0.36 acre of non-wetlands. Individual acreages of STM and DEV are rounded to the nearest hundredth.

Table 3
EXISTING CDFW AND CITY JURISDICTIONAL AREAS (acre[s])[1]

Map[2]	Channel Type	Wetland/Riparian Habitat[3]		Drainage		Total	
		SRF	Total Wetland/ Riparian	STM/ NFC	DEV	CDFW[5]	City
S. Chollas Creek Map 101 (Reaches 2 & 3)	Earthen	0.04	0.04	--	--	0.04	0.04
	Concrete[6]	--	--	0.16	0.21	0.36	0.16
	TOTAL	**0.04**	**0.04**	**0.16**	**0.21**	**0.40**	**0.20**

[1] Habitats are rounded to the nearest 0.01 acre
[2]Map Numbers from the City's MMP (2011a)
[3]Habitat acronyms: DEV=developed land (including concrete bank); SRF=southern riparian forest (disturbed), STM/NFC= streambed/City natural flood channel (concrete-lined channel)
[4]CDFW jurisdictional area includes additional 0.21 acre of bank (City upland: developed land [concrete])
[5] Total existing CDFW acreage is 0.40 acre, including 0.04 of wetlands and 0.36 acre of non-wetlands. Individual acreages of STM and DEV are rounded to the nearest hundredth.
[6] For City, this channel type includes 0.16 acre of STM/NFC, which is the concrete-lined channel bed, and 0.21 acre of concrete-lined channel bank. Although these areas may be within jurisdictional Waters of US or State, the MMP does not require mitigation for unvegetated concrete-lined channels.

MAINTENANCE IMPACTS

Maintenance Methodology

An IMP (Rick 2017) was prepared for the proposed maintenance in accordance with the MMP. The IMP identifies the limits of maintenance and describes the methodology to be used within the channel. The maintenance methodologies are summarized below.

Maintenance in Map 101 is expected to remove up to 7,380 cubic yards, including 6,530 cubic yards from Reach 2 and 850 cubic yards from Reach 3, of material over approximately six days in order to restore the original capacity of the channel to convey storm water. The maintenance area includes 1,370 linear feet of concrete bottom (Reach 3) and 50 linear feet of earthen-bottom channel (Reach 2). Equipment anticipated to be involved in the maintenance include a gradall, front-end loader, track steer, dozer, excavator, and dump truck. Diversion pumps will be placed at the upstream and downstream ends of the maintenance area. Water will be pumped around the maintenance area in a pipe and discharged downstream of the maintenance area. Sandbags will be approximately 20 feet long, one-foot wide, and two-feet high. One-foot wide sandbags, with a plastic lining, will also be placed around the by-pass pumps at a length of 12-feet and 8-feet depth. The contractor will adjust sandbag placement, length, and depth as necessary. Additional dewatering pump(s) may be used at various locations to remove ponded water prior to equipment entering the channel.

The small track steer will enter the channel at access and loading area at 6062 Federal Blvd. Additional access may be required through private property at 6144 Federal Blvd. The track steer will push vegetation and sediment to the excavator and front-end loader stationed at the edge of the channel within the loading area. The excavator will transfer the material to dump trucks for disposal at an authorized disposal site. Street sweepers will sweep adjacent public rights-of-way and immediate truck loading sites nightly. Upon completion of the maintenance, any sandbags placed will be removed and the equipment will be transported back to the City yard.

Vegetation Impacts:

Wetland

The total project impacts on City wetlands associated with the proposed maintenance within Map 101 is 0.04 acre of disturbed southern riparian forest (Table 4). The project would also impact 0.16 acre of natural flood channel/streambed, all of which would occur within concrete-lined portions of the channel that do not contain sediment or vegetation communities.

Upland

Overall, proposed maintenance impacts a total of 1.62 acres of upland communities (Table 4). The upland acreage is composed of 0.04 acre of disturbed Diegan coastal sage scrub and 1.58 acres of developed land.

Table 4
MAINTENANCE IMPACTS

Total Impacts:	
City Vegetation/Land Cover Impacts:	**1.82 acres**
City Wetlands	0.04 acre
City Natural Flood Channel	0.16 acre[1]
Upland (Diegan coastal sage scrub and developed land)	1.62 acres[2]
USACE/RWQCB/CDFW Jurisdictional Areas:	
Wetland and Non-Wetland Waters (USACE WUS)	0.20 acre
Wetland and Non-Wetland Waters (RWQCB)	0.40 acre[3]
Wetland/Riparian Habitat and Drainage (CDFW)	0.40 acre[2]

[1] 0.16 acre of City natural flood channel occur entirely within concrete-lined portions of the channel that do not contain sediment or vegetation communities.
[2] 1.62 acres of City upland and 0.40 acre of CDFW jurisdiction include 0.21 acre of bank (developed land).
[3] 0.40 acre of RWQCB jurisdiction include 0.21 acre of bank (developed land).

Sensitive* Plant Species Observed:
Yes ☐ No ▣

If yes, what species were observed and where? If yes, complete a California Native Species Field Survey Form and submit it to the California Natural Diversity Database.

* Sensitive species shall include those listed by state or federal agencies as well as species that could be considered sensitive under Sections 15380(b) and (c) and 15126(c) of the CEQA Guidelines.

Sensitive* Animal Species Observed/Detected:
Yes ☐ No ▣

If yes, what species were observed/detected and where? If yes, complete a California Native Species Field Survey Form and submit it to the California Natural Diversity Database.

* Sensitive species shall include those listed by state or federal agencies as well as species that could be considered sensitive under Sections 15380(b) and (c) and 15126(c) of the CEQA Guidelines.

Plants

No federal or state-listed plant species, or other sensitive plant species, were detected during the biological survey. Two sensitive plant species, Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*) and oil nest straw (*Stylocline citroleum*), were previously documented near Map 101 of South Chollas Creek respectively as documented in CNDDB, USFWS, and SanBIOS databases (Figure 5). Robinson's pepper-grass is considered a CNPS Rank 4.3 species and oil nest straw is considered a CNPS Rank 1B.1 species. An additional nine species were observed within one mile of the

project work areas: San Diego thorn-mint (*Acanthomintha ilicifolia*; Rank 1B.1), California adolphia (*Adolphia californica*; Rank 2B.1), single whorl burrowbrush (*Ambrosia monogyra*; Rank 2B.2), aphanisma (*Aphanisma blitoides*; Rank 1B.2), decumbent goldenbush (*Isocoma menziesii* var. *decumbens*; Rank 1B.2), San Diego button-celery (*Eryngium aristulatum* var. *parishii;* Rank 1B.1), Coulter's goldenfields (*Lasthenia glabrata* ssp. *coulteri*; Rank 1B.1), San Diego goldenstar (*Bloomeria clevelandii*; Rank 1B.1), and San Diego barrel cactus (*Ferocactus viridescens*; Rank 2B.1). Rank 1B.1 indicates species that are rare or endangered in California and elsewhere, and seriously threatened in California. Rank 1B.2 indicates species that are rare or endangered in California and elsewhere, and moderately threatened in California. Rank 2B.1 indicates species that are rare or endangered in California, but more common elsewhere, and seriously threatened in California. Rank 2B.2 indicates species that are rare or endangered in California, but more common elsewhere, and moderately threatened in California. Rank 4.3 indicates watch list for species of limited distribution, but not very endangered. None of these species were observed during the survey and the potential for any of the above species to occur within the maintenance area is low due to the disturbed nature of the channel, amount of non-native species, and low habitat quality.

Animals

No federal or state-listed animal species, or other sensitive animal species, were detected during the biological survey. One sensitive animal species, coastal California gnatcatcher (*Polioptila californica californica*; CAGN), has been documented approximately 500 feet to the southwest of the western portion of the Map 101 segment of South Chollas Creek as recently as 2015 according to the CNDDB, USFWS, and SanBIOS databases (Figure 5). Four additional special-status animal species have been reported within one mile of the project work areas and are documented in CNDDB, USFWS, and SanBIOS databases: LBVI (federally and state listed endangered), orange-throated whiptail (*Aspidoscelis hyperythra*, state Species of Special Concern), San Diego fairy shrimp (*Branchinecta sandiegonensis*, federally listed endangered), and Quino checkerspot butterfly (*Euphydryas editha quino*; QCB, federally listed endangered; Figure 5). None of these species were observed during the survey. The potential for any of the above species to occur within the maintenance area is low due to the disturbed nature of the channel and close proximity to development.

Is any portion of the maintenance activity within an MHPA? Yes ☐ No ▣

Is there moderate or high potential for listed animal species to occur in or adjacent to the impact area?
Yes ▣ No ☐

If yes, which species (check all that apply) and describe any surveys which should be undertaken to determine whether those species could occur within the maintenance area:

☐ Least Bell's vireo
☐ Southwestern willow flycatcher
☐ Arroyo toad
▣ Coastal California gnatcatcher
☐ San Diego fairy shrimp
☐ Riverside fairy shrimp
☐ California least tern
☐ Light-footed clapper rail
☐ Western snowy plover
☐ Other: _____

Coastal California Gnatcatcher

The CAGN (federally threatened, CDFW Species of Special Concern) has been documented within the MHPA approximately 500 feet to the southwest of the Map 101 channel as recently as 2015. The maintenance area does not support suitable habitat for the CAGN; however, Diegan coastal sage scrub immediately surrounding the maintenance area in Map 101 would provide suitable habitat. The CAGN is assumed present; therefore, species specific surveys are not required. The maintenance area and disturbed Diegan coastal sage scrub are located immediately adjacent to Highway 94 and commercial development. The CAGN could be directly impacted by maintenance if Diegan coastal sage scrub is removed during the breeding season (March 1 – August 15). Indirect impacts to CAGN due to noise are no anticipated because noise impacts only apply to areas within the MHPA, which is greater than 500 feet away, as discussed further below.

Least Bell's Vireo

Although there is not a moderate or high potential for LBVI to occur, LBVI has been reported within a mile radius of Map 101, north of the Chollas Reservoir (Figure 5). This species is listed as endangered under the federal and state Endangered Species Acts and inhabits mature riparian scrub and forest with a well-developed canopy and stratified understory.

The 2017 LBVI survey report concluded that southern riparian forest within the work area was marginally suitable for this species because the potential habitat consisted of isolated patches of riparian vegetation (generally less than 0.5 acre) that are not connected to other larger, more contiguous patches of potential habitat, the vegetation communities occur along a narrow storm channel, and the area is interspersed with habitat not suitable for LBVI (e.g., developed and Diegan coastal sage scrub; HELIX 2017; Attachment 6). Although the potential for LBVI to reside inside most of the work area is low and the work area is not conducive to LBVI breeding due to extensive patches of ornamental/non-native vegetation, a poorly-developed understory, and immediate adjacency to commercial and residential development and busy roadway, there is potential for LBVI to nest in patches of Map 101 and for individuals to forage inside the work area. Because of this potential, the 2017 survey was conducted according to the USFWS protocol for presence/absence surveys to comply with Applicable Maintenance Protocol BIO-5 and Specific Breeding Bird Mitigation Measures. LBVI were not detected during any of the surveys.

Attach documentation supporting the determination of the presence or absence of listed animal species with a moderate or high potential to occur (e.g. California Natural Diversity Database records searches).

No sensitive species have been reported within the work areas during previous surveys; therefore, the potential for state and federally listed sensitive species (other than the CAGN) to occur within the work areas is considered low. Figure 5 depicts CNDDB, USFWS, and SanBIOS database records within one mile of the project site. Four additional species have been documented within one mile of Map 101. Orange-throated whiptail are found in coastal sage scrub, chaparral, edges of riparian woodlands, and washes. Suitable coastal sage scrub habitat is located adjacent to the maintenance area; however, this habitat would not be impacted. San Diego fairy shrimp are found in vernal pools, which were not observed in the work areas. A QCB CNDDB data point overlaps with Map 101; however, the data point was recorded in 1969 and has an accuracy of 4 km, which is why the QCB area is so large on Figure 5. The QCB occurs in sunny openings within chaparral and coastal sage scrub in the presence of host plants. The QCB is no longer known to occur in this portion of San Diego County and is not expected within the maintenance area.

A detailed Individual Noise Assessment (INA) was conducted in 2017 (HELIX 2018). The INA concluded that the proposed maintenance is anticipated to comply with the Noise Control Ordinance; thus, no noise impacts on sensitive uses (e.g., CAGN) would occur from operation of equipment in the course of maintenance.

Is there moderate or high potential for a listed plant species to occur in or adjacent to the impact area?

Yes ☐ No ▣

<u>If yes, identify which species may occur and describe any surveys which should be undertaken to determine whether those species could occur within the maintenance area</u>:

No federal or state-listed plant species, or other sensitive plant species, were detected during the biological survey. Six plant species (San Diego thorn-mint, California adolphia, San Diego barrel cactus, decumbent goldenbush, Coulter's goldfields, and oil nest straw) were mapped across all Maps of South Chollas Creek, as documented in CNDDB, USFWS, and SanBIOS databases (Figure 6). California adolphia, San Diego barrel cactus, and decumbent goldenbush are shrubs or succulents and would likely have been observed if present. San Diego thorn-mint and Coulter's goldfields are small annual herbs usually found in vernal pools, habitat not present within the work areas. Oil nest straw is a small annual herb found in shadscale scrub and coastal sage scrub; however, the nearest known population is located over one mile away.

Five additional species were mapped within one mile of the project work areas: single whorl burrowbrush, aphanisma, San Diego goldenstar, San Diego button-celery, and Robinson's pepper grass. Single whorl burrowbrush is a shrub and would have been observed if present. Aphanisma is a small annual herb found in coastal sage scrub in coastal habitats, which is not present within the work areas. San Diego button-celery is a small herb usually found in vernal pools, habitat that is not present within the work areas. The Diegan coastal sage scrub immediately surrounding the maintenance area could provide suitable habitat for the San Diego goldenstar (Rank 1B.1) and Robinson's pepper grass (Rank 4.3); however, this habitat has been degraded by human activity and non-native vegetation as well as being completely surrounded by development.

No federal or state-listed plant species have a moderate or high potential to occur within the maintenance area; however, two sensitive species, San Diego goldenstar and Robinson's pepper grass, have a low potential to occur within the maintenance area.

Attach documentation supporting the determination of the presence or absence of listed plant species with a moderate or high potential to occur (e.g. California Natural Diversity Database records searches).

See Figure 5.

Could maintenance disrupt the integrity of an important habitat (i.e., disruption of a wildlife corridor and/or an extensive riparian woodland: Yes ☐ No ▣

If yes, discuss which habitat could be impacted and how:

Could work be conducted during the avian breeding season (January 15 – August 31) without the need for pre-construction nesting surveys: Yes ☐ No ▣

Nesting birds have potential to occur within or adjacent to the area of the proposed channel maintenance. Thus, pre-construction nesting surveys by a qualified biologist are necessary to help ensure no impacts to avian species occur and that the project would comply with the Migratory Bird Treaty Act (MBTA), California Fish and Game Code (CFGC), and the MMP's PEIR MMRP. The potential exists for birds protected by the MBTA and CFGC to nest in trees in and adjacent to the maintenance area. The MBTA prohibits deliberate take of birds, eggs, and active nests without a permit from the USFWS. The CFGC Section 3503 states it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. In practice, reasonable diligence to avoid take of birds and/or active nests, such as pre-construction nesting bird surveys, is considered sufficient to comply with the MBTA and CFGC.

If yes, provide justification:

Is it anticipated that maintenance activities would generate noise in excess of 60 dB(A) L_{EQ}? Yes ▣ No ☐

Equipment used during maintenance may generate noise in excess of 60 dB(A)L_{EQ}.

If yes, what measures should be taken to avoid adverse impacts on avian breeding within or adjacent to the maintenance?

Maintenance operations have the potential to generate noise in excess of 60 dB(A)L_{EQ}. In accordance with Mitigation Measure 4.1.4, noise control for CAGN is only required for areas within the MHPA, which is approximately 500 feet to the southwest of the work area. In accordance with Mitigation Measure 4.1.2, a noise analysis was completed and confirmed that noise from the proposed maintenance would not generate noise in excess of 60dBA L_{EQ} (HELIX 2018).

Biological Resource Conditions Relative to Original Survey Conducted for MASTER PROGRAM Final Program EIR (May 2010) (vegetation communities present, including adjacent uplands; general habitat quality/level of disturbance):

The majority of habitat mapping and programmatic jurisdictional delineation work (largely based on aerial and topographic interpretation combined with observations upstream and downstream) for the PEIR was conducted by HELIX in late winter and early spring of 2007 and 2008. Based on current aerial photographs and the field surveys in December 2016, the following changes have occurred in the South Chollas Creek Channel reaches:

- In 2007-2008, the proposed maintenance area was mapped as mostly developed with southern willow scrub in the western portion of the channel and Diegan coastal sage scrub surrounding the channel. Currently, portions previously mapped as southern willow scrub have converted into southern riparian forest. In 2007-2008, the western staging area was mapped as entirely developed. This staging area has not changed. The eastern proposed staging area adjacent to Federal Boulevard was not mapped by HELIX in 2007/2008, but, based on aerial photography, this area was also developed as part of the commercial development.

Between 2007-2008 and current conditions, vegetation communities developed and expanded in the maintenance areas. The southern willow scrub at the west end is considered southern riparian forest. The channel is subject to the same levels of trash deposition, noise, and urban runoff as in 2007-2008.

Adjacent upland habitats have changed minimally since 2007. Areas mapped as Diegan coastal sage scrub in 2007/2008 still contain Diegan coastal sage scrub now and current conditions are generally consistent.

Is there a moderate or high potential for maintenance to impact an MHPA?
Yes ☐ No ☒

If yes, discuss the potential impacts that could occur from the portion within or adjacent to that MHPA:

The MHPA is approximately 500 feet southwest of the maintenance area in Map 101 (Figure 4). Access to this maintenance area is expected to occur via the developed lot at 6184 Federal Blvd. Thus, no direct impacts to the MHPA are expected to occur. Existing commercial buildings and Federal Boulevard exist between the channel and the MHPA. Given the distance between the channel and MHPA, the maintenance area is not expected to impact the MHPA.

Is there moderate or high potential for listed animal species to be impacted?
Yes ☒ No ☐

If yes, which species (check all that apply):

☐ Least Bell's vireo
☐ Southwestern willow flycatcher
☐ Arroyo toad
☒ Coastal California gnatcatcher
☐ San Diego fairy shrimp
☐ Riverside fairy shrimp
☐ California least tern
☐ Light-footed clapper rail
☐ Western snowy plover
☐ Other:_____

One listed species (CAGN) is known to occur near Map 101. Protocol presence/absence surveys were conducted in 2017 for LBVI and none were found; the survey results concluded that southern riparian forest in and near maintenance areas is marginally suitable for the species (HELIX 2017; Attachment 6). Thus, LBVI is not expected to be present, and there is low potential for maintenance impacts to this species.

Coastal California Gnatcatcher

The CAGN could be directly impacted if the species is utilizing the site or staging areas and vegetation is removed during the breeding season (March 1-August 15). As noted above, noise from the maintenance is not expected to exceed 60 dBA in the MHPA (note that only indirect noise impacts MHPA).

MITIGATION

Applicable Maintenance Protocols from the MMP (list the applicable maintenance protocols based on the biological resources occurring or likely to occur on site include any special protocols required):

The following protocols specified in the MMP will be carried out by individuals with qualifications approved by the City.

Water Quality (WQ)

WQ-5 Revegetate spoil and staging areas within 30 days of completion of maintenance activities. Monitor and maintain revegetated areas for a period of not less than 25 months following planting.

WQ-10 Inspect earthen-bottom storm water facilities within 30 days of the first two-year storm following maintenance. Implement erosion control measures recommended by the field engineer, such as fiber blankets, to remediate substantial erosion that has occurred and to minimize future erosion.

Biological Resource Protection (BIO)

BIO-1 Restrict vehicles to access designated in the Master Program.

BIO-2 Flag and delineate all sensitive biological resources to remain within or adjacent to the maintenance area prior to initiation of maintenance activities in accordance with the site-specific IBA, IHHA, and/or IMP.

BIO-3 Conduct a pre-maintenance meeting on site prior to the start of any maintenance activity that occurs within or adjacent to sensitive biological resources. The pre-maintenance meeting shall include the qualified biologist, field engineer/planner, equipment operators/superintendent and any other key personnel conducting or involved with the channel maintenance activities. The qualified biologist shall point out or identify sensitive biological resources to be avoided during maintenance, flag/delineate sensitive resources to be avoided, review specific measures to be implemented to minimize direct/indirect impacts, and direct crews or other personnel to protect sensitive biological resources as necessary. The biologist shall also review the proposed erosion control methods to confirm that they would not pose a risk to wildlife (e.g., non-biodegradable blankets, which may entangle wildlife).

BIO-4 Avoid introduction of invasive plant species with physical erosion control measures (e.g., fiber mulch, rice straw, etc.).

BIO-5 Conduct appropriate pre-maintenance protocol surveys if maintenance is proposed during the breeding season of a sensitive animal species. If sensitive animal species covered by the PEIR are identified, then applicable measures from the MMRP shall be implemented under the direction of a qualified biologist to avoid significant direct and/or indirect impacts to identified sensitive animal species. If sensitive animal species are identified during pre-maintenance surveys that are not covered by the PEIR, the Storm Water Department shall contact the appropriate wildlife agencies and additional environmental review under CEQA will be required (Pre-maintenance surveys are not required within one year of a negative protocol survey).

BIO-6 Remove arundo through one, or a combination of, the following methods: (1) foliar spray (spraying herbicide on leaves and stems without cutting first) when arundo occurs in monotypic stands, or (2) cut and paint (cutting stems close to the ground and spraying or painting herbicide on cut stem surface) when arundo is intermixed with native plants. When sediment supporting arundo must be removed, the sediment shall be excavated to a depth sufficient to remove the rhizomes, wherever feasible. Following removal of sediment containing rhizomes, loose rhizome material shall be removed from the channel and disposed of off-site. After the initial treatment, the area of removal shall be inspected on a quarterly basis for up 2 years, or until no re-sprouting is observed during an inspection. If re-sprouting is observed, the cut and paint method shall be applied to all resprouts.

BIO-7 Avoid mechanized maintenance within 300 feet of a Cooper's hawk nest, 900 feet of a northern harrier's nest, or 500 feet of any other raptor's nest until any fledglings have left the nest. Reduced setbacks shall be allowed if the biological monitor determines that the setbacks can be reduced based on the field observations, ambient conditions, life history of the affected birds, and type of maintenance proposed. In the event the biological monitor determines that a reduced setback is appropriate, the biologist shall prepare a letter summarizing the basis for the reduced setbacks and send it to the CDFW and USFWS for concurrence prior to invoking reduced setbacks.

Specific Breeding Bird Mitigation Measures

- In accordance with BIO-5, if work along South Chollas Creek is proposed during the breeding season of the CAGN (March 1 through August 15), USFWS-protocol surveys and noise analysis would be performed according to Land Use Mitigation Measures 4.1.2 and 4.1.3. CAGN are assumed to be present due to historical records as recent as 2015 and presence of suitable habitat. An INA was completed and concluded that indirect noise impacts to CAGN habitat within the MHPA would not occur. Diegan coastal sage scrub may not be removed during the breeding season to prevent direct impacts to CAGN. Removal of Diegan coastal sage scrub should be scheduled outside the breeding season to avoid direct impacts to the CAGN.

- In accordance with BIO-5, if work along South Chollas Creek is proposed during the breeding season of the LBVI (March 15 through September 15), USFWS-protocol surveys and noise analysis would be performed according to Land Use Mitigation Measures 4.1.2 and 4.1.3. HELIX conducted a LBVI survey in 2017 (HELIX 2017; Attachment 6). Since the LBVI was not observed, LBVI are not presumed to be present, and a noise analysis is not required. Therefore, work does need to be scheduled outside the breeding season.

- In accordance with BIO-5, if maintenance is planned during the general avian breeding season (January 15 through August 31), pre-construction nesting surveys shall be conducted within three days of initiating maintenance activities and maintenance setbacks established around active nests in accordance with PEIR Mitigation Measures 4.3.13 and 4.3.16. Reduced setbacks shall be allowed if the biological monitor determines that the setbacks can be reduced based on the field observations, ambient conditions, life history of the affected birds, and type of maintenance proposed. In the event the biological monitor determines that a reduced setback is appropriate, the biologist shall prepare a letter summarizing the basis for the reduced setbacks, and send it to the appropriate agencies for concurrence prior to invoking reduced setbacks.

Applicable PEIR mitigation measures:

General Mitigation 1, 2, 3, and 4;

Biological Resources 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.7, 4.3.8, 4.3.9, 4.3.10, 4.3.11, 4.3.12, 4.3.13, 4.3.14, 4.3.16, 4.3.17, 4.3.18, 4.3.19, 4.3.20, 4.3.21, 4.3.22, 4.3.25

Land Use, 4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.1.5, 4.1.6, 4.1.7, 4.1.8

Applicable PEIR mitigation measures have been included in their entirety in Attachment 1.

Other mitigation measures: Regulatory permits, agreements, and/or authorizations may require additional conditions to avoid, minimize, and/or mitigate impacts to biological resources.

- Flagging will be placed along the boundaries of all maintenance areas to keep maintenance from extending into the adjacent habitat.
- The designated biological monitor shall be present throughout the first full day of maintenance, whenever mandated by the associated IBA.
- Surveys for state or federally listed sensitive or MSCP-covered species older than 24 months must be updated, as appropriate, to accurately reflect resources on site.

Environmental Mitigation Requirements (including wetland enhancement, restoration, creation, and/or purchase of wetland credits in a mitigation bank; off-site upland habitat acquisition/payment into the City's habitat acquisition fund):

Wetlands

Mitigation is generally required for impacts to wetlands associated with similar proposed maintenance. The mitigation ratios for maintenance activities must be consistent with those identified in the Settlement Agreement related to the Final PEIR for the MMP.

Mitigation for jurisdictional impacts is also dependent upon the composition of the channel. Jurisdiction and mitigation ratios are different for earthen and concrete channels.

The following is a description of mitigation required for jurisdictional impacts.

USACE/RWQCB Jurisdictional Areas:

Earthen-bottom Channels

The USACE and RWQCB have jurisdiction over earthen channels within South Chollas Creek, and will require compensatory mitigation for maintenance impacts to wetlands. Impacts to USACE and RWQCB jurisdictional earthen-bottom channel from maintenance will amount to 0.04 acre. Mitigation is proposed at a 2:1 ratio for wetland impacts, resulting in a total mitigation requirement of 0.08 acre (Figure 6; Table 5).

Table 5
USACE/RWQCB PROPOSED MITIGATION[1]

Vegetation Community	Impacts to Natural-Bottom Channel (ac)[1]	Impacts to Concrete-Lined Channel (ac)[1]	Mitigation Ratio	Mitigation (ac)[1]
Southern Riparian Forest	0.04		2:1	0.08
Wetlands Subtotal	0.04		2:1	0.08
Streambed/Natural Flood Channel[2]	--	0.16	0:1	0
Non-wetland Waters Subtotal	--	0.16	0:1	0
GRAND TOTAL	**0.04**	**0.16**	--	**0.08**

[1]Acreages are rounded to the nearest 0.01 acre.
[2] Impacts to concrete-lined channel includes 0.16 acre of unvegetated concrete-lined channel bottom (USACE and RWQCB jurisdiction) and 0.21 acre of concrete-lined channel banks (RWQCB jurisdiction only), which would not require mitigation.

Concrete-lined Channels

The USACE does not regulate activities that occur in concrete-lined channels unless the work involves the placement of fill. Per section 404 (f)(1)(b) of the CWA, the maintenance of serviceable structures is exempt from USACE regulation, and sections of South Chollas Creek Map 101 qualify as serviceable structures. Maintenance within concrete-lined portions of South Chollas Creek will be limited to removal of sediment and plant material.

Previous habitat mitigation required by the San Diego RWQCB for maintenance on concrete-lined MMP channels has been on a case-by-case basis, typically 1:1 enhancement for impacts to wetland habitat, but mitigation has not been required for unvegetated concrete-lined streambed. Therefore, no RWQCB mitigation for the 0.36 acre of unvegetated channel within the concrete portion of Map 101 (Reach 3) is being proposed at this time.

CDFW Jurisdictional Areas:

The CDFW has jurisdiction over earthen channels within South Chollas Creek and will require compensatory mitigation for maintenance impacts to wetlands. While CDFW requires notification of activities within concrete-lined channels, it typically does not require compensatory mitigation for these activities. Impacts to CDFW jurisdictional earthen-bottom channel from maintenance will amount to 0.04 acre (Table 6). Mitigation for impacts to CDFW jurisdictional areas (earthen-bottom channel and riparian habitat) is proposed at a 2:1 ratio for southern riparian forest, resulting in a total mitigation requirement of 0.08 acre (Figure 6; Table 6). No mitigation is proposed for impacts to the 0.36 acre of concrete-lined streambed and banks (developed land).

Table 6
CDFW PROPOSED MITIGATION

Vegetation Community	Impact (ac) [1]	Ratio	Mitigation (ac) [1]
Southern Riparian Forest (earthen)	0.04	2:1	0.08
Streambed (concrete)[2]	0.36	0:1[2]	0
TOTAL	**0.40**	**--**	**0.08**

[1]Acreages are rounded to the nearest 0.01 acre.
[2] Concrete-lined channel and concrete banks. No mitigation is proposed for impacts to concrete-lined streambed nor concrete banks (developed land).

City Jurisdiction:

The City regulates both earthen and concrete-lined channels and requires compensatory mitigation for wetland impacts pursuant to the mitigation ratios specified in the modified Site Development Permit 1134892 and CDP for the Master Storm Water System Maintenance Program. As illustrated in Table 7, the proposed maintenance will require mitigation to compensate for 0.08 acre of impact to City wetlands, including southern riparian forest (Figure 6). Concrete-lined channels without accumulated sediment and/or vegetation inside the project areas will not be affected by project activities and no impact to such areas will result from the project. Wetland mitigation will be provided at a ratio of 3:1 for southern riparian forest, consisting of 1:1 restoration or creation and 2:1 acquisition and/or enhancement, to comply with the Settlement Agreement. In-kind could be considered where it would clearly benefit sensitive species and results in a biologically superior alternative.

Table 7
CITY MITIGATION SUMMARY[1]

VEGETATION COMMUNITY	IMPACT TO EARTHEN CHANNEL (ac)	IMPACT TO CONCRETE-LINED CHANNEL (ac)	TOTAL IMPACT (ac)	RATIO	MITIGATION (ac)
Southern Riparian Forest	0.04	--	0.04	3:1	0.12
Natural Flood Channel[2]	--	0.16	0.16	0:1	--
TOTAL	**0.04**	**0.16**	**0.20**	**--**	**0.12**

[1]Acreages are rounded to the nearest 0.01 acre; thus, totals reflect rounding.
[2] Natural Flood Channel within the maintenance area consists entirely of a concrete-lined channel without sediment accumulation.

Uplands

The City regulates impacts to uplands and requires compensatory mitigation for upland impacts pursuant to the mitigation ratios specified in the San Diego Municipal Code Land Development Code's Biology Guidelines (City 2012). The majority of upland impacts for the proposed maintenance consist of developed lands; however, there are 0.04 acre of impacts to Tier II Diegan coastal sage scrub associated with the staging and access area.

Table 8
CITY MITIGATION SUMMARY FOR UPLANDS

VEGETATION COMMUNITY	IMPACTS OUTSIDE THE MHPA (ac)	MITIGATION RATIO WITHIN THE MHPA[1]	MITIGATION (ac)
Diegan Coastal Sage Scrub	0.04	1:1	0.04
Developed Land	1.58	0:1	--
TOTAL	**1.62**	**--**	**0.04**

[1] Assumes mitigation is occurring inside the MHPA. Mitigation outside the MHPA would at a 1.5:1 ratio for Diegan coastal sage scrub.

Mitigation Description/Location:

Mitigation for wetland impacts from maintenance in Map 101 will be fulfilled at the Stadium Mitigation Site (Atkins 2015) located along the San Diego River between I-15 and I-805 south of San Diego County Credit Union Stadium. The Stadium Mitigation Site is an advance permittee-responsible mitigation site with a service area that includes the Pueblo watershed, Peñasquitos watershed, and San Diego River watershed west of El Capitan Reservoir. The City's requirement for 0.04 acre of impacts to southern riparian forest would be fulfilled through the acquisition of 0.04 acre of restoration (rehabilitation) and 0.08 acre of enhancement of riparian woodland. The USACE, RWQCB, and CDFW requirement for impacts to the same 0.04 acre of southern riparian forest would be fulfilled through the acquisition of 0.04 acre of restoration (rehabilitation) and 0.04 acre of enhancement of riparian woodland. The Pueblo watershed, and more locally the Chollas Creek watershed, are known to be highly urbanized. With this being the case, years of study, including that which went into the Chollas Creek Enhancement Plan and recently completed Chollas Watershed Master Plan, yielded no results that would allow the City to be able to carry forward the proposed maintenance project ahead of the September 27, 2018 expiration of the MMP PEIR. Therefore, the City placed the proposed mitigation at the third level of geographical preference outlined under Mitigation Measure 4.3.9 of the PEIR "Outside impacted watershed, within City limits".

The 0.04 acre of Diegan coastal sage scrub mitigation would be fulfilled through the purchase of credits from the City's Habitat Acquisition Fund or Cornerstone Lands. The mitigation credits would provide suitable habitat for the coastal California gnatcatcher to offset the impact at a 1:1 ratio.

California Rapid Assessment Method (CRAM) was used as an indicator of wetland conditions in the South Chollas Creek Channel. The purpose of CRAM is to provide a rapid, standardized, and scientifically defensible assessment of the status of a wetland. HELIX biologists Jasmine Bakker and Summer Schlageter conducted the CRAM assessment for AA 101 was conducted on December 7, 2016. The CRAM results are provided in Attachment 2. These CRAM scores will be used to document the condition of the South Chollas channels prior to maintenance and will be used for comparisons with restoration areas being used to mitigate for channel impacts.

ADDITIONAL COMMENTS OR RECOMMENDATIONS

~~None.~~ Equipment will be thoroughly inspected and cleaned in place to limit to the transfer of invasive plant rhizomes, seeds, and infectious substances to other areas of work.

Individual Biological Assessment Report Figures:

Figure 1: Regional Location
Figure 2: Project Vicinity Map (Aerial Photograph)
Figure 3: Project Vicinity Map (USGS Topography)
Figure 4: Vegetation and Sensitive Biological Resources, South Chollas Creek Channel – Map 101
Figure 5: Sensitive Species Occurrences within One-Mile of Project Location, South Chollas Creek Channel – Map 101
Figure 6: Waters of the U.S./State and City Wetlands, South Chollas Creek Channel – Map 101

Individual Biological Assessment Report Attachments:

Attachment 1: Applicable PEIR Mitigation Measures
Attachment 2: CRAM Data Sheets and Figures
Attachment 3: Plant Species Observed in the South Chollas Creek Channel
Attachment 4: Wildlife Species Observed in the South Chollas Creek Channel
Attachment 5: Preliminary Jurisdictional Determination Form
Attachment 6: 2017 Least Bell's Vireo Survey Report

REFERENCES:

Atkins. 2015. Stadium Wetland Mitigation Project (San Diego River). March.

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkeley.

California Wetlands Monitoring Workgroup (CWMW). 2013. California Rapid Assessment Method (CRAM) for Wetlands. User's Manual. Version 6.1. April. pp. 67.

City of San Diego (City). 2012. Land Development Code Biology Guidelines (as amended by Resolution No. R-307376). April 23.

2011a Master Storm Water Maintenance Program. San Diego, California. October.

2011b Final Recirculated Master Storm Water System Maintenance Program PEIR. San Diego, California. October 4.

2007 California Environmental Quality Act, Significance Determination Thresholds. Development Services Department. January (updated 2011).

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. 100 pp. with Appendices.

HELIX Environmental Planning (HELIX), 2018. Draft Individual Noise Assessment Report, South Chollas Creek Channel – Map 101. February 2018.

2017. 2017 Least Bell's Vireo (*Vireo bellii pusillus*) Survey Report for the City of San Diego South Chollas Creek Channel Maintenance Project. August 2017.

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

Rick Engineering. 2018. Draft Maintenance Plans for South Chollas Creek Channel MMP Map 101. February.

2017. Draft Individual Hydrologic & Hydraulic Assessment (IHHA) Report for South Chollas Creek Channel, Map 101. April 4.

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

SITE PHOTOS

PHOTO NOTES:
Map 101, looking downstream from within the earthen maintenance area (12/7/16).

PHOTO NOTES:
Map 101, just west of the maintenance area looking upstream (12/7/16).

PHOTO NOTES:
Map 101, looking downstream from the east end of the maintenance area (2/21/18).

PHOTO NOTES:
Map 101, looking upstream (2/21/18).

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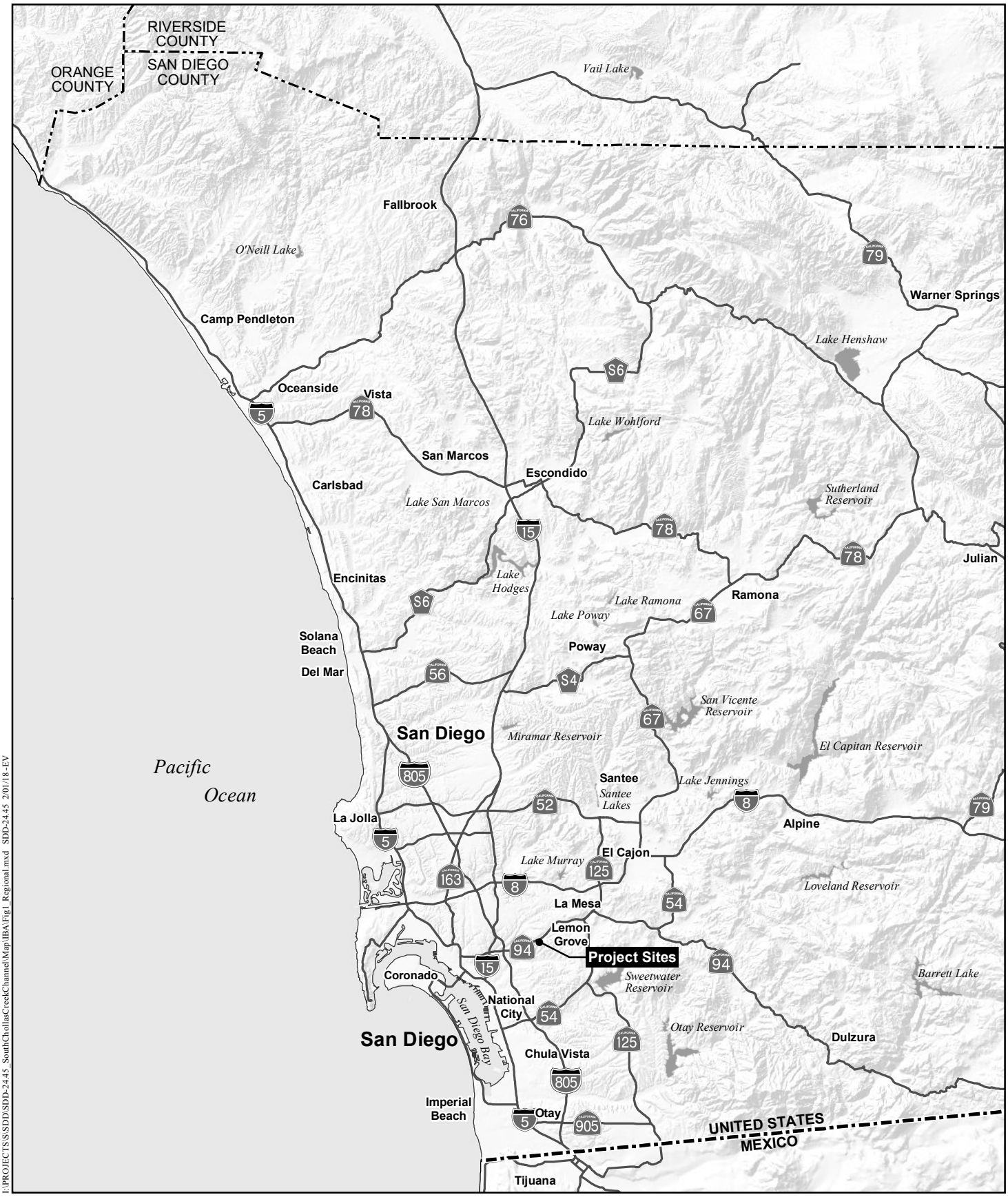

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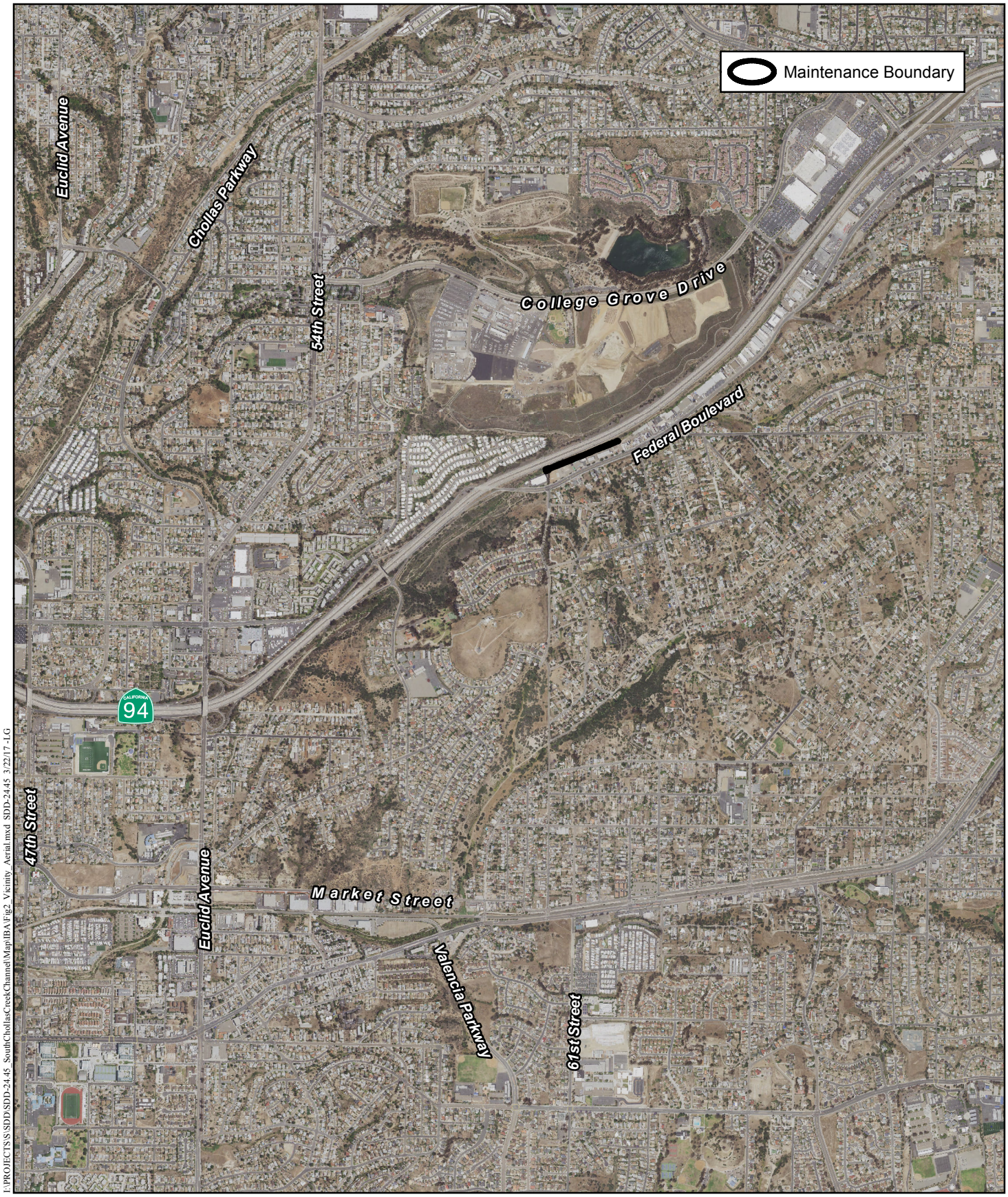
Regional Location

SOUTH CHOLLAS CREEK CHANNEL

HELIX Environmental Planning

N 0 8 Miles

Figure 1



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Project Vicinity Map (Aerial Photograph)

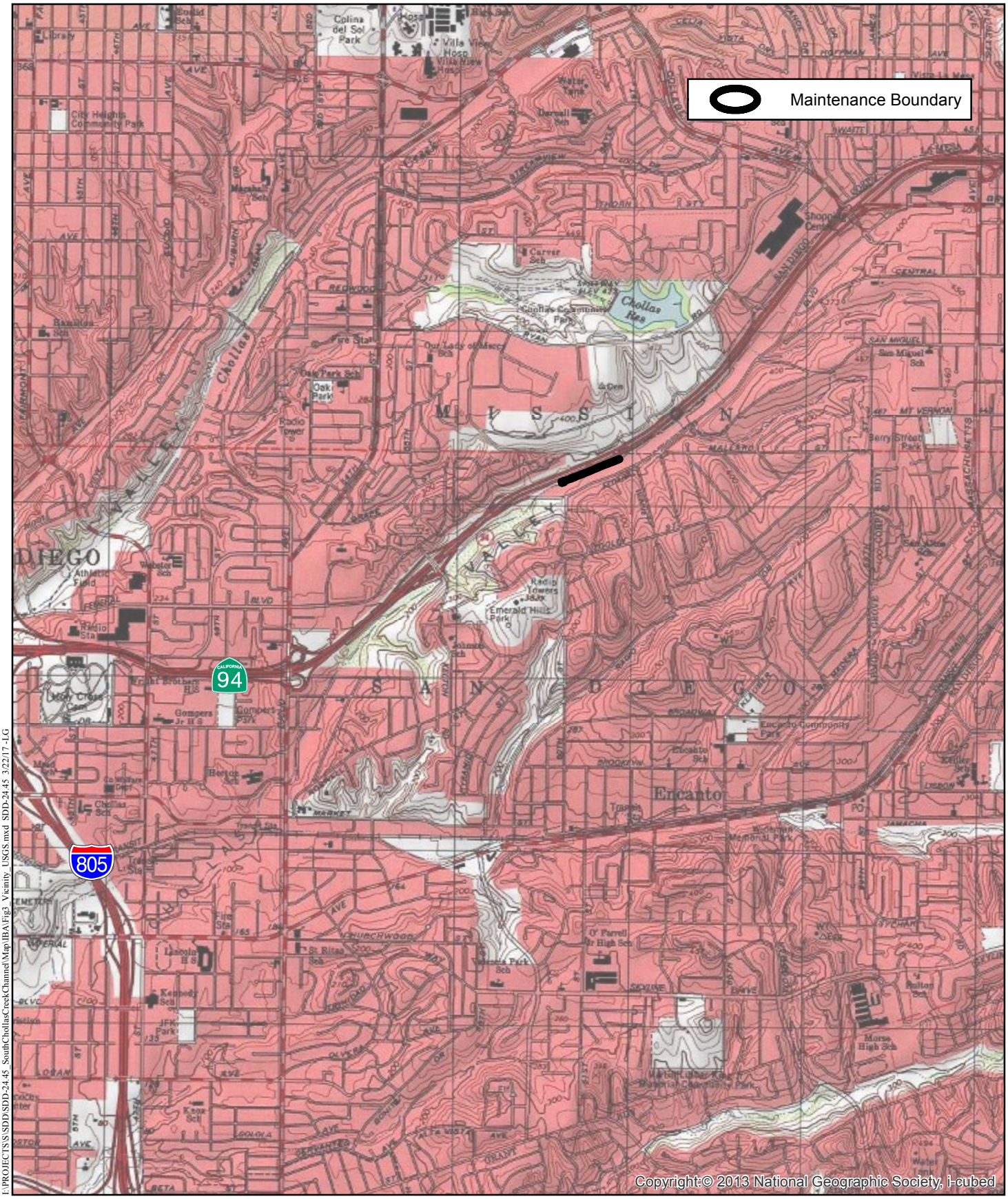
SOUTH CHOLLAS CREEK CHANNEL

HELIX Environmental Planning

N

0 3,000 Feet

Figure 2



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Project Vicinity Map (USGS Topography)

SOUTH CHOLLAS CREEK CHANNEL

HELIX Environmental Planning

N

0 2,500 Feet

Figure 3

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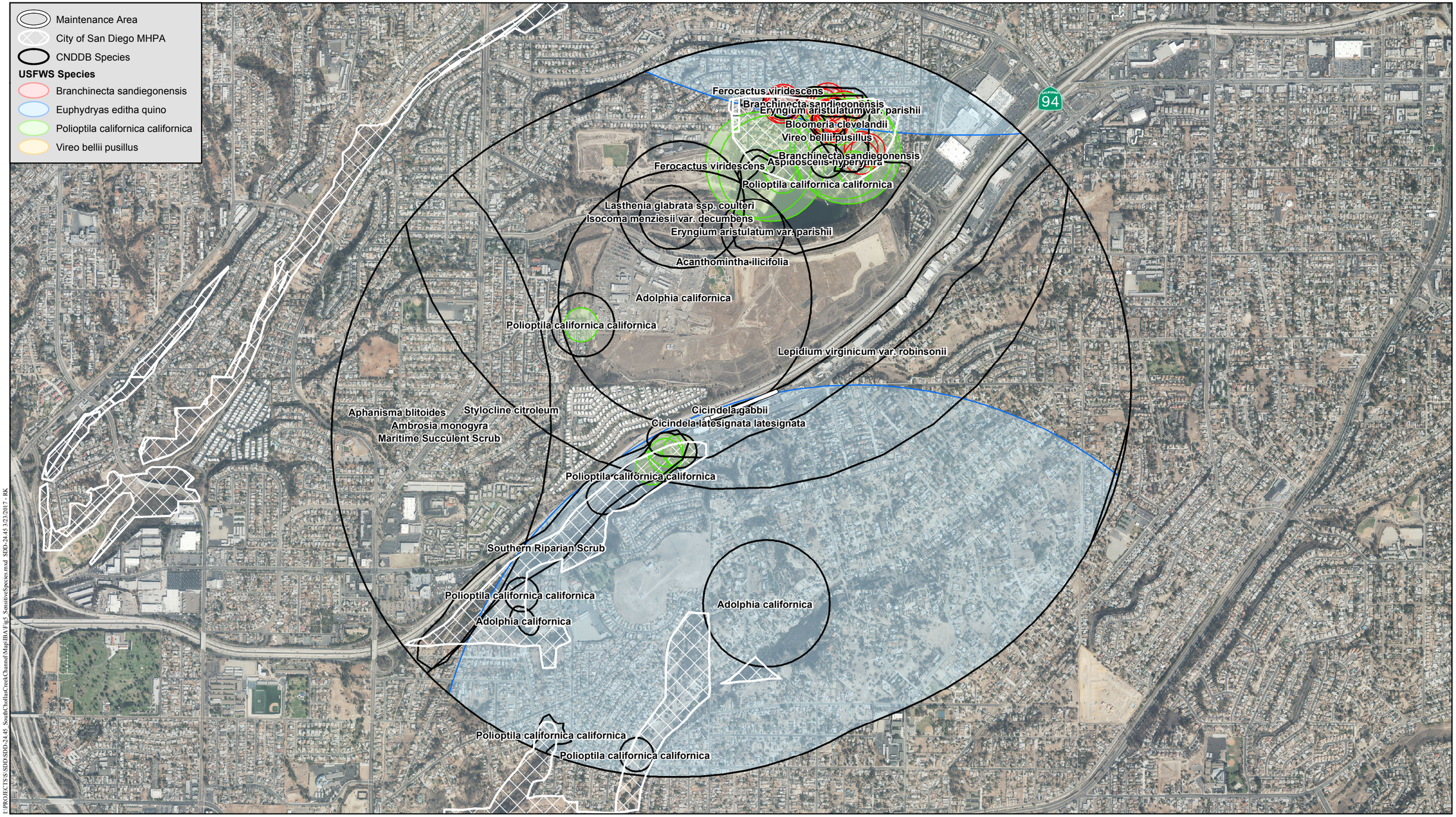
Vegetation and Sensitive Biological Resources, South Chollas Creek Channel – Map 101

SOUTH CHOLLAS CREEK CHANNEL

HELIX Environmental Planning

N 0 100 Feet

Figure 4



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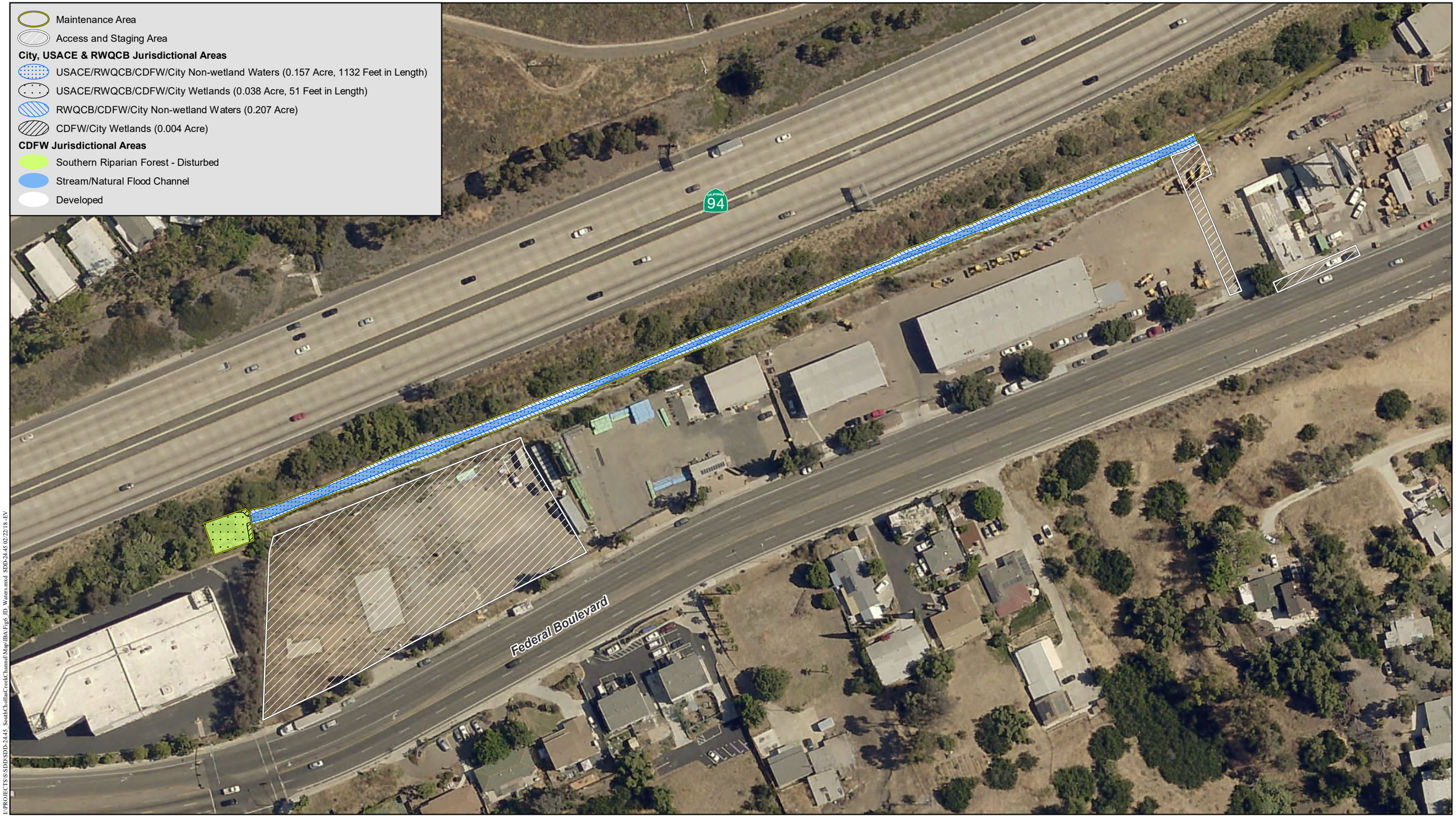
Sensitive Species Occurrences within One-Mile of Project Location, South Chollas Creek Channel – Map 101

HELIX Environmental Planning

0 1,400 Feet

SOUTH CHOLLAS CREEK CHANNEL

Figure 5



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Waters of the U.S./State and City Wetlands, South Chollas Creek Channel – Map 101

SOUTH CHOLLAS CREEK CHANNEL

HELIX Environmental Planning

0 100 Feet

Figure 6

Attachment 1
Applicable PEIR Mitigation Measures

GENERAL

General Mitigation 1: Prior to commencement of work, the Assistant Deputy Director (ADD) Environmental Designee of the Entitlements Division shall verify that mitigation measures for impacts to biological resources (Mitigation Measures 4.3.1 through 4.3.20), historical resources (Mitigation Measures 4.4.1 and 4.4.2), land use policy (Mitigation Measures 4.1.1 through 4.1.13), paleontological resources (Mitigation Measure 4.7.1), and water quality (Mitigation Measures 4.8.1 through 4.8.3) have been included in entirety on the submitted maintenance documents and contract specifications, and included under the heading, "Environmental Mitigation Requirements." In addition, the requirements for a Pre-maintenance Meeting shall be noted on all maintenance documents.

General Mitigation 2: Prior to the commencement of work, a Pre-maintenance Meeting shall be conducted and include, as appropriate, the Mitigation Monitoring Coordinator (MMC), Storm Water Division (SWD) Project Manager, Biological Monitor, Historical Monitor, Paleontological Monitor, Water Quality Specialist, and Maintenance Contractor, and other parties of interest.

General Mitigation 3: Prior to the commencement of work, evidence of compliance with other permitting authorities is required, if applicable. Evidence shall include either copies of permits issued, letters of resolution issued by the Responsible Agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the ADD Environmental Designee.

General Mitigation 4: Prior to commencement of work and pursuant to Section 1600 et seq. of the State of California Fish & Game Code, evidence of compliance with Section 1605 is required, if applicable. Evidence shall include either copies of permits issued, letters of resolution issued by the Responsible Agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the ADD Environmental Designee.

BIOLOGICAL RESOURCES

Mitigation Measure 4.3.1: Prior to commencement of any activity within a specific annual maintenance program, a qualified biologist shall prepare an Individual Biological Assessment (IBA) for each area proposed to be maintained. The IBA shall be prepared in accordance with the specifications included in the Master Program.

Mitigation Measure 4.3.2: No maintenance activities within a proposed annual maintenance program shall be initiated before the City's ADD Environmental Designee and state and federal agencies with jurisdiction over maintenance activities have approved the Individual Maintenance Plans (IMPs) and IBAs including proposed mitigation for each of the proposed activities. In their review, the ADD Environmental Designee and agencies shall confirm that the appropriate maintenance protocols have been incorporated into each IMP.

Mitigation Measure 4.3.3: No maintenance activities within a proposed annual maintenance program shall be initiated until the City's ADD Environmental Designee and MMC have approved the qualifications for biologist(s) who shall be responsible for monitoring maintenance activities which may impact sensitive biological resources.

Mitigation Measure 4.3.4: Prior to undertaking any maintenance activity included in an annual maintenance program, a mitigation account shall be established to provide sufficient funds to implement all biological mitigation associated with the proposed maintenance activities. The fund amount shall be determined by the ADD Environmental Designee. The account shall be managed by the City's SWD, with quarterly status reports submitted to Development Services Department (DSD). The status reports shall separately identify upland and wetland account activity. Based upon the impacts identified in the IBAs, money shall be deposited into the account, as part of the project submittal, to ensure available funds for mitigation.

Mitigation Measure 4.3.5*:* Prior to commencing any activity that could impact wetlands, evidence of compliance with other permitting authorities is required, if applicable. Evidence shall include copies of permits issued, letters of resolution issued by the Responsible Agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the ADD Environmental Designee.

Mitigation Measure 4.3.6: Prior to commencing any activity where the IBA indicates significant impacts to biological resources may occur, a pre-maintenance meeting shall be held on site with the following in attendance: City's SWD Maintenance Manager (MM), MMC, and Maintenance Contractor (MC). The biologist selected to monitor the activities shall be present. At this meeting, the monitoring biologist shall identify and discuss the maintenance protocols that apply to the maintenance activities.

At the pre-maintenance meeting, the monitoring biologist shall submit to the MMC and MC a copy of the maintenance plan (reduced to 11"x17") that identifies areas to be protected, fenced, and monitored. This data shall include all planned locations and design of noise attenuation walls or other devices. The monitoring biologist also shall submit a maintenance schedule to the MMC and MC indicating when and where monitoring is to begin and shall notify the MMC of the start date for monitoring.

Mitigation Measure 4.3.7: Within three months following the completion of mitigation monitoring, two copies of a written draft report summarizing the monitoring shall be prepared by the monitoring biologist and submitted to the MMC for approval. The draft monitoring report shall describe the results including any remedial measures that were required. Within 90 days of receiving comments from the MMC on the draft monitoring report, the biologist shall submit one copy of the final monitoring report to the MMC.

Mitigation Measure 4.3.8: Within six months of the end of an annual storm water facility maintenance program, the monitoring biologist shall complete an annual report which shall be distributed to the following agencies: the City of San Diego DSD, California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), U.S. Fish and Wildlife

Service (USFWS), and U.S. Army Corps of Engineers (USACE). At a minimum, the report shall contain the following information:

- Tabular summary of the biological resources impacted during maintenance and the mitigation;
- Master table containing the following information for each individual storm water facility or segment which is regularly maintained;
- Date and type of most recent maintenance;
- Description of mitigation which has occurred; and
- Description of the status of mitigation which has been implemented for past maintenance activities.

Mitigation Measure 4.3.9: Wetland impacts resulting from maintenance shall be mitigated in one of the following two ways: (1) habitat creation, restoration, and/or enhancement, or (2) mitigation credits. The amount of mitigation shall be in accordance with ratios in Table 4.3-10 unless different mitigation ratios are required by state or federal agencies with jurisdiction over the impacted wetlands. In this event, the mitigation ratios required by these agencies will supersede, and not be in addition to, the ratios defined in Table 4.3-10. No maintenance shall commence until the ADD Environmental Designee has determined that mitigation proposed for a specific maintenance activity meets one of these two options.

Table 4.3-10
WETLAND MITIGATION RATIOS

WETLAND TYPE	MITIGATION RATIO
Southern riparian forest	3:1
Southern sycamore riparian woodland	3:1
Riparian woodland	3:1
Coastal saltmarsh	4:1
Coastal brackish marsh	4:1
Southern willow scrub	2:1
Mule fat scrub	2:1
Riparian scrub[1]	2:1
Freshwater marsh[2]	2:1
Cismontane alkali marsh	4:1
Disturbed wetland	2:1
Streambed/natural flood channel	2:1

[1] Mitigation ratio within the Coastal Zone will be 3:1
[2] Mitigation ratio within the Coastal Zone will be 4:1

Mitigation locations for wetland impacts shall be selected using the following order of preference, based on the best mitigation value to be achieved.

1. Within impacted watershed, within City limits.
2. Within impacted watershed, outside City limits on City-owned or other publicly-owned land.
3. Outside impacted watershed, within City limits.
4. Outside impacted watershed, outside City limits on City-owned or other publically-owned land.

In order to mitigate for impacts in an area outside the limits of the watershed within which the impacts occur, the SWD must demonstrate to the satisfaction of the ADD Environmental Designee in consultation with the Resource Agencies that no suitable location exists within the impacted watershed.

Mitigation Measure 4.3.10: Whenever maintenance will impact wetland vegetation, a wetland mitigation plan shall be prepared in accordance with the Conceptual Wetland Restoration Plan contained in Appendix H of the Biological Technical Report, included as Appendix D.3 of the PEIR. Mitigation which involves habitat enhancement, restoration or creation shall include a wetland mitigation plan containing the following information:

- Conceptual planting plan including planting zones, grading, and irrigation;
- Seed mix/planting palette;
- Planting specifications;
- Monitoring program including success criteria; and
- Long-term maintenance and preservation plan.

Mitigation which involves habitat acquisition and preservation shall include the following:

- Location of proposed acquisition;
- Description of the biological resources to be acquired including support for the conclusion that the acquired habitat mitigates for the specific maintenance impact; and
- Documentation that the mitigation area would be adequately preserved and maintained in perpetuity.

Mitigation which involves the use of mitigation credits shall include the following:

- Location of the mitigation bank;

- Description of the credits to be acquired including support for the conclusion that the acquired habitat mitigates for the specific maintenance impact; and

- Documentation that the credits are associated with a mitigation bank which has been approved by the appropriate Resource Agencies.

Mitigation Measure 4.3.11: Upland impacts shall be mitigated through payment into the City's Habitat Acquisition Fund, acquisition and preservation of specific land, or purchase of mitigation credits in accordance with the ratios identified in Table 4.3-11. Upland mitigation shall be completed within six months of the date the related maintenance has been completed.

Table 4.3-11
UPLAND HABITAT MITIGATION RATIOS[1]

Vegetation Type	Tier	Location of Impact with Respect to the MHPA	
		Inside	Outside
Coast live oak woodland	I	2:1	1:1
Scrub oak chaparral	I	2:1	1:1
Southern foredunes	I	2:1	1:1
Beach	I	2:1	1:1
Diegan coastal sage scrub	II	1:1	1:1
Coastal sage-chaparral scrub	II	1:1	1:1
Broom baccharis scrub	II	1:1	1:1
Southern mixed chaparral	IIA	1:1	0.5:1
Non-native grassland	IIIB	1:1	0.5:1
Eucalyptus woodland	IV	--	--
Non-native vegetation/ornamental	IV	--	--
Disturbed habitat/ruderal	IV	--	--
Developed	IV	--	--

[1]Assumes mitigation occurs within a Multi-Habitat Planning Area (MHPA)

Mitigation Measure 4.3.13: Prior to commencing any maintenance activity which may impact sensitive biological resources, the monitoring biologist shall verify that the following actions have been taken, as appropriate:

- Fencing, flagging, signage, or other means to protect sensitive resources to remain after maintenance have been implemented;

- Noise attenuation measures needed to protect sensitive wildlife are in place and effective; and/or

- Nesting raptors have been identified and necessary maintenance setbacks have been established if maintenance is to occur between January 15 and August 31.

The designated biological monitor shall be present throughout the first full day of maintenance, whenever mandated by the associated IBA. Thereafter, through the duration of the maintenance activity, the monitoring biologist shall visit the site weekly to confirm that measures required to protect sensitive resources (e.g., flagging, fencing, noise barriers) continue to be effective. The monitoring biologist shall document monitoring events via a Consultant Site Visit Record. This record shall be sent to the MM each month. The MM will forward copies to MMC.

Mitigation Measure 4.3.14: Whenever off-site mitigation would result in a physical disturbance to the proposed mitigation area, the City will conduct an environmental review of the proposed mitigation plan in accordance with the California Environmental Quality Act (CEQA). If the off-site mitigation would have a significant impact on biological resources associated with the mitigation site, mitigation measures will be identified and implemented in accordance with the Mitigation, Monitoring and Reporting Program (MMRP) resulting from that CEQA analysis.

Mitigation Measure 4.3.16: Maintenance activities shall not occur within the following areas:

- 300 feet from any nesting site of Cooper's hawk (*Accipiter cooperii*);
- 1,500 feet from known locations of the southern pond turtle (*Clemmys marmorata pallida*);
- 900 feet from any nesting sites of northern harriers (*Circus cyaneus*);
- 4,000 feet from any nesting sites of golden eagles (*Aquila chrysaetos*); or
- 300 feet from any occupied burrow or burrowing owls (*Athene cunicularia*).

Mitigation Measure 4.3.18*:* If a subject species is not detected during the protocol survey, the qualified biologist shall submit substantial evidence to the ADD Environmental Designee and an applicable resource agency which demonstrates whether or not mitigation measures such as noise walls are necessary between the dates stated above for each species. If this evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary.

Mitigation Measure 4.3.21: If maintenance occurs during the raptor breeding season (January 15 to August 31), a pre-maintenance survey for active raptor nests shall be conducted in areas supporting suitable habitat. If active raptor nests are found, maintenance shall not occur within 300 feet of a Cooper's hawk nest, 900 feet of a northern harrier's nest, or 500 feet of any other raptor's nest until any fledglings have left the nest.

Mitigation Measure 4.3.22: If removal of any eucalyptus trees or other trees used by raptors for nesting within a maintenance area is proposed during the raptor breeding season (January 15 through August 31), a qualified biologist shall ensure that no raptors are nesting in such trees. If maintenance occurs during the raptor breeding season, a pre-maintenance survey shall be conducted and no maintenance shall occur within 300 feet of any nesting site of Cooper's hawk or other nesting raptor until the young fledge. Should the biologist determine that raptors are

nesting, the trees shall not be removed until after the breeding season. In addition, if removal of grassland or other habitat appropriate for nesting by northern harriers, a qualified biologist shall ensure that no harriers are nesting in such areas. If maintenance occurs during the raptor breeding season, a pre-maintenance survey shall be conducted and no maintenance shall occur within 900 feet of any nesting site of northern harrier until the young fledge.

Mitigation Measure 4.3.25*:* In order to avoid impacts to nesting avian species, including those species not covered by the Multiple Species Conservation Program (MSCP), maintenance within or adjacent to avian nesting habitat shall occur outside of the avian breeding season (January 15 to August 31) unless postponing maintenance would result in a threat to human life or property.

LAND USE

Mitigation Measure 4.1.6: A pre-maintenance meeting shall be held with the Maintenance Contractor, City representative and the Project Biologist. The Project Biologist shall discuss the sensitive nature of the adjacent habitat with the crew and subcontractor. Prior to the pre-maintenance meeting, the following shall be completed:

- The SWD shall provide a letter of verification to the Mitigation Monitoring Coordination Section stating that a qualified biologist, as defined in the City of San Diego Biological Resources Guidelines, has been retained to implement the projects MSCP monitoring Program. The letter shall include the names and contact information of all persons involved in the Biological Monitoring of the project. At least thirty days prior to the pre-maintenance meeting, the qualified biologist shall submit all required documentation to MMC, verifying that any special reports, maps, plans and time lines, such as but not limited to, revegetation plans, plant relocation requirements and timing, MSCP requirements, avian or other wildlife protocol surveys, impact avoidance areas or other such information has been completed and updated.

- The limits of work shall be clearly delineated. The limits of work, as shown on the approved maintenance plan, shall be defined with orange maintenance fencing and checked by the biological monitor before initiation of maintenance. All native plants or species of special concern, as identified in the biological assessment, shall be staked, flagged and avoided within Brush Management Zone 2, if applicable.

Mitigation Measure 4.1.7: Maintenance plans shall be designed to accomplish the following.

- Invasive non-native plant species shall not be introduced into areas adjacent to the MHPA. Landscape plans shall contain non-invasive native species adjacent to sensitive biological areas, as shown on the approved maintenance plan.

- All lighting adjacent to, or within, the MHPA shall be shielded, unidirectional, low pressure sodium illumination (or similar) and directed away from sensitive areas using appropriate placement and shields. If lighting is required for nighttime maintenance, it shall be directed away from the preserve and the tops of adjacent trees with potentially nesting raptors, using appropriate placement and shielding.

- All maintenance activities (including staging areas and/or storage areas) shall be restricted to the disturbance areas shown on the approved maintenance plan. The project biologist shall monitor maintenance activities, as needed, to ensure that maintenance activities do not encroach into biologically sensitive areas beyond the limits of work as shown on the approved maintenance plan.

- No trash, oil, parking or other maintenance-related activities shall be allowed outside the established maintenance areas including staging areas and/or storage areas, as shown on the approved maintenance plan. All maintenance related debris shall be removed off-site to an approved disposal facility.

- Access roads through MHPA-designated areas shall comply with the applicable policies contained in the "Roads and Utilities Construction and Maintenance Policies" identified in Section 1.4.2 of the City's Subarea Plan.

Attachment 2
PLANT SPECIES OBSERVED IN THE SOUTH CHOLLAS CHANNEL

Family	Species Name	Common Name	Habitat[1]
	Native Species[2]		
Anacardiaceae	*Malosma laurina*	laurel sumac	DCSS
	Rhus integrifolia	lemonadeberry	DCSS
Asteraceae	*Ambrosia psilostachya*	western ragweed	SRF
	Artemisia californica	California sagebrush	DCSS
	Baccharis salicifolia	mule fat	DCSS, SRF
	Baccharis sarothroides	broom baccharis	DCSS
	Bahiopsis laciniata	San Diego sunflower	DCSS
	Brickellia californica	brickellbrush	DCSS
	Encelia californica	California encelia	DCSS
	Iva hayesiana	San Diego marsh-elder	DCSS
Cactaceae	*Cylindropuntia californica*	California cholla	DCSS
	Opuntia littoralis	coastal prickly pear	DCSS
Fabaceae	*Acmispon glaber*	deerweed	DCSS
Juncaceae	***Juncus acutus* ssp. *leopoldii***	southwestern spiny rush	SRF, ST/NFC
Lamiaceae	*Salvia apiana*	white sage	DCSS
	Salvia mellifera	black sage	DCSS
Onagraceae	*Oenothera elata*	great marsh evening-primrose	SRF
Phrymaceae	*Mimulus aurantiacus*	monkey-flower	DCSS
Poaceae	*Elymus condensatus*	giant wild rye	DCSS
	Muhlenbergia rigens	deergrass	DCSS
Polygonaceae	*Eriogonum fasciculatum*	buckwheat	DCSS
Rosacea	*Heteromeles arbutifolia*	toyon	DCSS
	Rosa californica	California rose	DCSS
Salicaceae	*Populus fremontii* ssp. *fremontii*	Fremont cottonwood	SRF
	Salix exigua	narrow-leaved willow	SRF
	Salix gooddingii	Goodding's black willow	SRF
	Salix laevigata	red willow	SRF
	Salix lasiolepis	arroyo willow	SRF
	Non-native Species[3]		
Aizoaceae	***Carpobrotus edulis***	hottentot-fig	DCSS
	Schinus terebinthifolius	Brazilian pepper tree	SRF
Apiaceae	***Foeniculum vulgare***	fennel	DCSS

Attachment 2
PLANT SPECIES OBSERVED IN THE SOUTH CHOLLAS CHANNEL

Family	Species Name	Common Name	Habitat[1]
	Washingtonia robusta	Mexican fan palm	SRF
Chenopodiaceae	***Atriplex semibaccata***	Australian saltbush	DCSS
	Salsola tragus	Russian thistle	DCSS
Cyperaceae	*Cyperus* sp.	flatsedge	SRF
Fabaceae	*Acacia* sp.	acacia	SRF
	Eucalyptus sp.	eucalyptus	SRF
Plantaginaceae	***Plantago lanceolata***	English plantain	SRF
Poaceae	***Arundo donax***	giant reed	SRF
	Cynodon dactylon	Bermuda grass	DCSS
	Pennisetum setaceum	purple fountain grass	DCSS
Solanaceae	***Nicotiana glauca***	tree tobacco	DCSS

[1]Habitats: DCSS=Diegan Coastal Sage Scrub (disturbed); SRF=Southern Riparian Forest (disturbed); ST/NFC=Streambed/Natural Flood Channel (concrete)
[2]Sensitive species in boldface
[3]Invasive species in boldface

Attachment 3
WILDLIFE SPECIES OBSERVED IN THE SOUTH CHOLLAS CHANNEL

Species Name[1]	Common Name
Invertebrates	
Danaus plexippus	monarch
Vertebrates	
Corvus brachyrhynchos	American crow
Calypte anna	Anna's hummingbird
Sayornis nigricans	black phoebe
Icterus bullockii	Bullock's oriole
Psaltriparus minimus	bushtit
Aphelocoma californica	California scrub-jay
Melozone crissalis	California towhee
Corvus corax	common raven
Haemorhous mexicanus	house finch
Spinus psaltria	lesser goldfinch
Zenaida macroura	mourning dove
Circus cyaneus	Northern harrier
Columba livia	rock pigeon
Unidentified	unidentified gull
Setophaga coronata	yellow-rumped warbler

[1]Sensitive species in boldface

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Attachment 4
CALIFORNIA RAPID ASSESSMENT METHOD FOR THE SOUTH CHOLLAS CHANNEL

California Rapid Assessment Method

California Rapid Assessment Method (CRAM) was used as an indicator of wetland conditions in the South Chollas Creek channels. The purpose of CRAM is to provide a rapid, standardized, and scientifically defensible assessment of the status of a wetland. Trained CRAM practitioner (HELIX biologist Jasmine Bakker) and assistant (HELIX biologist Summer Schlageter) conducted the CRAM assessment on December 5, 2016 for Assessment Areas (AAs) 95/97 and 97a. The CRAM assessment for AAs 98 and 101 were conducted on December 7, 2016. The CRAM assessment was conducted within five AAs, as follows: AA-95/97 covers South Chollas Creek Map 95/97, AA-97a covers South Chollas Creek Map 97a, AA-98 covers South Chollas Creek Map 98, and AA-101 covers South Chollas Creek Map 101.

A summary of the CRAM results is provided in Table 4; the results are explained in text following Table 4. The CRAM assessment data sheets and maps are provided in Attachment 4 and explain how the scores were calculated.

Table 4*
CRAM DATA SUMMARY

CRAM Attributes	Metrics		AA-95/97 Score*	AA-97a Score*	AA-98 Score*	AA-101 Score*
Buffer and Landscape Context	Stream Corridor Continuity		3	3	3	9
	Buffer Sub-metrics:					
	- Percent of Assessment Area with Buffer		9	3	3	9
	- Average Buffer Width		3	3	3	3
	- Buffer Condition		6	3	3	9
	Attribute Score (Raw/Final)		**8.58/35.77**	**6.00/25.00**	**6.00/25.00**	**15.84/65.99**
Hydrology	Water Source		6	6	6	6
	Channel Stability		12	12	9	9
	Hydrologic Connectivity		9	12	3	9
	Attribute Score (Raw/Final)		**27.00/75.00**	**30.00/83.33**	**18.00/50.00**	**24.00/66.67**
Structure	Physical	Structural Patch Richness	3	3	3	9
		Topographic Complexity	6	6	3	6
	Attribute Score (Raw/Final)		**9.00/37.50**	**9.00/37.50**	**6.00/25.00**	**15.00/62.50**
	Biotic	Plant Community Sub-metrics:				
		– Number of Plant Layers Present	12	12	6	3
		– Number of Co-Dominant Species	3	6	3	3
		– Percent Invasion	9	3	12	6
		Horizontal Interspersion	6	6	3	3
		Vertical Biotic Structure	3	6	6	3
	Attribute Score (Raw/Final)		**17.00/47.22**	**19.00/52.78**	**16.00/44.44**	**10.00/27.78**
OVERALL AA SCORE			**49**	**50**	**36**	**56**

* Possible scores range from a low of 3 to a high of 12 (with scores of 6 and 9 considered moderate in this assessment). The Raw/Final Attribute Scores are explained in the following discussions of each CRAM Attribute.

Buffer and Landscape Context

Stream Corridor Continuity refers to the spatial association with other areas of aquatic resources, such as other wetlands, and it is assumed that wetlands close to each other interact and are benefited both ecologically and hydrologically. AA-95/97, AA-97a, and AA-98 received a low score for Stream Corridor Continuity because the wetland areas are separated by non-wetland areas of concrete-lined channels and culverts, etc. AA-101 received a high score for Stream Corridor Continuity because wetland areas were not separated.

A buffer is the area adjoining an AA that is in a natural or semi-natural state and is currently not dedicated to anthropogenic uses that would severely detract from its ability to entrap contaminants, discourage visitation into the AA by people and non-native predators, or otherwise protect the AA from stress and disturbance. For the Buffer Sub-metrics, all five AAs scored relatively low due to the small average buffer width and generally poor buffer condition.

Hydrology

Water Sources include direct inputs of water into an AA, as well as any diversions of water from an AA. Water Sources directly affect the extent, duration, and frequency of saturated or ponded conditions within an AA. Consistent, natural inflows of water to a wetland are important for their ability to perform and maintain most of their intrinsic ecological, hydrological, and societal functions and services. All five AAs received moderate scores for Water Sources.

Channel Stability is assessed as the degree of channel aggradation (i.e., net accumulation of sediment on the channel bed causing it to rise over time) or degradation (i.e., net loss of sediment from the bed causing it to be lower over time). All five AAs received the relatively high scores for Channel Stability as all appear to be in equilibrium with few signs of either aggradation or degradation.

Hydrologic Connectivity describes the ability of water to flow into or out of a wetland, or to accommodate rising flood waters without persistent changes in water level that can result in stress to wetland plants and animals. It promotes the exchange of water, sediment, nutrients, and organic carbon. AA-98 received a low score for Hydrologic Connectivity because of the low entrenchment ratio. AAs 95/97, 97a, and 101 had greater entrenchment ratios and received high scored for Hydrologic Connectivity.

Physical Structure

Structural Patch Richness is the number of different obvious types of physical surfaces or features that may provide habitat for aquatic, wetland, or riparian species. This metric is different from Topographic Complexity (described below) in that it addresses the number of different patch types; Topographic Complexity evaluates the spatial arrangement and interspersion of the patch types. Four of the five AAs received a low score for Structural Patch Richness in that they supported one through four patch types out of a total of 12. AA-101 scored relatively high for Structural Patch

Topographic Complexity refers to the micro- and macro-topographic relief within a wetland due to abiotic features and elevations gradients. AA-98 received a low score. AA-98 is partially concrete-lined channel; therefore, AA-98 offers little to no Topographic Complexity present. AA-95/97, AA-97a, and AA-101 received a moderate score. AA-95/97 is entirely earthen with one concrete side, while AA-97a and AA-101 are partially earthen. All three segments contain moderate Topographic Complexity.

Biotic Structure

Plant Community Sub-metrics

AA-95/97 scored high for the number of plant layers present (four layers), moderately for the number of co-dominant species (i.e., the dominant plant species richness in each plant layer for the AA as a whole; four species for AA-95/97). AA-95/97 scored moderately high for the percent invasion of co-dominant species in the plant layers (i.e., 25 percent).

AA-97a received a high score for the number of plant layers (four layers) present, a moderate score for the number of co-dominant species (7 species), and a low score for the percent invasion (57 percent).

AA-98 received a moderate score for the number of plant layers (two layers) present, a low score for the number of co-dominant species (two species), and a high score for the percent invasion (0 percent).

AA-101 received low scores for the number of plant layers (one layer) present, the number of co-dominant species (three species), and a moderate score for percent invasion (33 percent).

Horizontal Interspersion

Horizontal Interspersion refers to the variety and interspersion of plant "zones." The existence of multiple horizontal plant zones indicates a well-developed plant community and predictable sedimentary and bio-chemical processes. Richer native communities of plants and animals tend to be associated with greater zonation and more interspersion. AA-98 and AA-101, are all represented by two plant zones and scored low for Horizontal Interspersion. AA-95/97 and AA-97a are represented by four plant zones and scored moderately for Horizontal Interspersion

Vertical Biotic Structure

Vertical Biotic Structure is the degree of overlap among plant layers (i.e., those used to assess the Plant Community Sub-metrics described above). The overall ecological diversity of a wetland tends to correlate with the vertical complexity of the wetland vegetation. AA-95/97 and AA-101 demonstrated minimal plant layer overlap and received low scores for this CRAM attribute. AA-97a and AA-98 demonstrated a greater degree of overlap resulting in a moderate score.

Overall CRAM Score

Overall CRAM scores are calculated by averaging the scores for each of the three CRAM Attributes. CRAM scores represent the percent of best achievable wetland conditions, and the overall CRAM score depends more on the diversity and levels of all its services than the level of any one service. The diversity and levels of services of a wetland increase with its structural complexity and size. Given the majority of the South Chollas Creek channels are wholly or partially concrete-lined flood control channels within urbanized areas, the structural complexity and size of the three AAs are limited and thus, each of the AAs score low. The overall CRAM score of 56 for AA-101 was the highest, followed by 50 for AA-97a, 49 for AA 95/97, and 36 for AA-98. CRAM scores obtained in 2016 will be used to document the condition of South Chollas Creek Channel prior to maintenance and will be used for comparisons with restoration areas being used to mitigate for channel impacts. Because CRAM results are available on a statewide database, these CRAM scores may also be used for comparison with other projects.

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CRAM Assessment Area

SOUTH CHOLLAS CREEK - MMP MAP 101

HELIX Environmental Planning

0 300 Feet

Basic Information Sheet: Riverine Wetlands

Assessment Area Name: South Chollas Map 101	
Project Name:	
Assessment Area ID #: AA-1	
Project ID #: SMD-24139	**Date:** 7 Dec 2016
Assessment Team Members for This AA:	
Jasmine B	
Summer S	
Average Bankfull Width:	
Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m):	
Upstream Point Latitude: 32.727814	**Longitude:** -117.068838
Downstream Point Latitude: 32.727416	**Longitude:** -117.069775

Wetland Sub-type:

☒ Confined ☐ Non-confined

AA Category:

☐ Restoration ☐ Mitigation ☐ Impacted ☐ Ambient ☐ Reference ☐ Training

☒ Other: pre-maintenance

Did the river/stream have flowing water at the time of the assessment? ☒ yes ☐ no

What is the apparent hydrologic flow regime of the reach you are assessing?

The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. *Perennial* streams conduct water all year long, whereas *ephemeral* streams conduct water only during and immediately following precipitation events. *Intermittent* streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source.

☒ perennial ☐ intermittent ☐ ephemeral

Photo Identification Numbers and Description:

	Photo ID No.	Description * facing	Latitude	Longitude	Datum
1	1	Upstream	32.72741	-117.069626	NAD 1983
2	2	Middle Left	32.727621	-117.069048	↓
3	3	Middle Right	32.72774	-117.069145	
4	4	Downstream	32.727747	-117.068648	
5					
6					
7					
8					
9					
10					

Site Location Description:

Comments:

Scoring Sheet: Riverine Wetlands

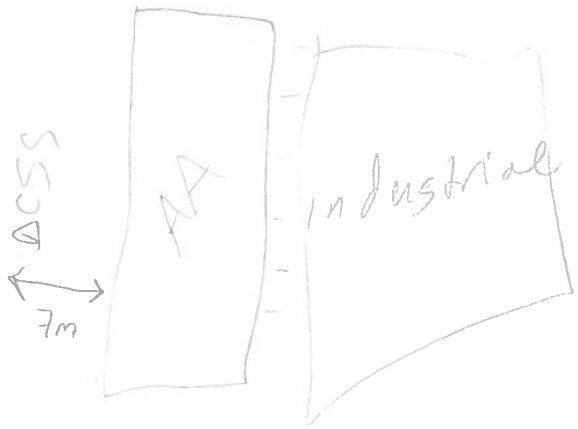
AA Name: South Challas Map 101				**Date:** Dec. 7, 2016	
Attribute 1: Buffer and Landscape Context (pp. 11-19)				**Comments**	
Stream Corridor Continuity (D)		Alpha. B	Numeric 9	Total Non-buffer = 165m	
Buffer:					
Buffer submetric A: Percent of AA with Buffer	Alpha. B	Numeric 9		50%	
Buffer submetric B: Average Buffer Width	D	3		Average width = 5.6m	
Buffer submetric C: Buffer Condition	B	9		mostly native but with human disturbance	
Raw Attribute Score = D+[C x (A x B)½]½			15.84	**Final Attribute Score = (Raw Score/24) x 100**	65.99
Attribute 2: Hydrology (pp. 20-26)					
Water Source		Alpha. C	Numeric 6		
Channel Stability		B	9		
Hydrologic Connectivity		B	9	E.T. = 1.6	
Raw Attribute Score = sum of numeric scores			24	**Final Attribute Score = (Raw Score/36) x 100**	66.67
Attribute 3: Physical Structure (pp. 27-33)					
Structural Patch Richness		Alpha. B	Numeric 9	7 patch types	
Topographic Complexity		C	6		
Raw Attribute Score = sum of numeric scores			15	**Final Attribute Score = (Raw Score/24) x 100**	62.5
Attribute 4: Biotic Structure (pp. 34-41)					
Plant Community Composition (based on sub-metrics A-C)					
Plant Community submetric A: Number of plant layers	Alpha. D	Numeric 3		1 layer: very tall	
Plant Community submetric B: Number of Co-dominant species	D	3		3 codominants	
Plant Community submetric C: Percent Invasion	C	6		33% invasion	
Plant Community Composition Metric *(numeric average of submetrics A-C)*			4		
Horizontal Interspersion		D	3	minimal interspersion	
Vertical Biotic Structure		D	3	only 1 plant layer	
Raw Attribute Score = sum of numeric scores			10	**Final Attribute Score = (Raw Score/36) x 100**	27.78
Overall AA Score (average of four final Attribute Scores)				56	

Worksheet for Stream Corridor Continuity Metric for Riverine Wetlands

Lengths of Non-buffer Segments For Distance of 500 m Upstream of AA		Lengths of Non-buffer Segments For Distance of 500 m Downstream of AA	
Segment No.	Length (m)	Segment No.	Length (m)
1	0	1	40
2	0	2	0
3	0	3	0
4	25	4	0
5	100	5	0
Upstream Total Length	125	Downstream Total Length	40

Percent of AA with Buffer Worksheet

In the space provided below make a quick sketch of the AA, or perform the assessment directly on the aerial imagery; indicate where buffer is present, estimate the percentage of the AA perimeter providing buffer functions, and record the estimate amount in the space provided.



Percent of AA with Buffer: 50 %

Worksheet for calculating average buffer width of AA

Line	Buffer Width (m)
A	5
B	5
C	5
D	6
E	7
F	7
G	5
H	5
Average Buffer Width ***Round to the nearest integer***	5.6

Worksheet for Assessing Channel Stability for Riverine Wetlands

Condition	Field Indicators (check all existing conditions)
Indicators of Channel Equilibrium	☐ The channel (or multiple channels in braided systems) has a well-defined bankfull contour that clearly demarcates an obvious active floodplain in the cross-sectional profile of the channel throughout most of the AA. ☐ Perennial riparian vegetation is abundant and well established along the bankfull contour, but not below it. ☐ There is leaf litter, thatch, or wrack in most pools (if pools are present). ☐ The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area. ☐ There is little or no active undercutting or burial of riparian vegetation. ☐ If mid-channel bars and/or point bars are present, they are not densely vegetated with perennial vegetation. ☐ Channel bars consist of well-sorted bed material (smaller grain size on the top and downstream end of the bar, larger grain size along the margins and upstream end of the bar). ☐ There are channel pools, the spacing between pools tends to be regular and the bed is not planar throughout the AA ☐ The larger bed material supports abundant mosses or periphyton.
Indicators of Active Degradation	☒ The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs. ☐ There are abundant bank slides or slumps. ☐ The lower banks are uniformly scoured and not vegetated. ☐ Riparian vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel. ☐ An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation. ☐ The channel bed appears scoured to bedrock or dense clay. ☐ Recently active flow pathways appear to have coalesced into one channel (i.e. a previously braided system is no longer braided). ☐ The channel has one or more knickpoints indicating headward erosion of the bed.
Indicators of Active Aggradation	☐ There is an active floodplain with fresh splays of coarse sediment (sand and larger that is not vegetated) deposited in the current or previous year. ☐ There are partially buried living tree trunks or shrubs along the banks. ☐ The bed is planar (flat or uniform gradient) overall; it lacks well-defined channel pools, or they are uncommon and irregularly spaced. ☐ There are partially buried, or sediment-choked, culverts. ☒ Perennial terrestrial or riparian vegetation is encroaching into the channel or onto channel bars below the bankfull contour. ☐ There are avulsion channels on the floodplain or adjacent valley floor.
Overall	☒ **Equilibrium** ☒ **Degradation** ☒ **Aggradation**

B

Riverine Wetland Entrenchment Ratio Calculation Worksheet

The following 5 steps should be conducted for each of 3 cross-sections located in the AA at the approximate midpoints along straight riffles or glides, away from deep pools or meander bends. An attempt should be made to place them at the top, middle, and bottom of the AA.

Steps	Replicate Cross-sections ⟶	TOP	MID	BOT
1 Estimate bankfull width.	This is a critical step requiring familiarity with field indicators of the bankfull contour. Estimate or measure the distance between the right and left bankfull contours.	7	22	24
2: Estimate max. bankfull depth.	Imagine a level line between the right and left bankfull contours; estimate or measure the height of the line above the thalweg (the deepest part of the channel).	1.5	2	1.5
3: Estimate flood prone depth.	Double the estimate of maximum bankfull depth from Step 2.	3	4	3
4: Estimate flood prone width.	Imagine a level line having a height equal to the flood prone depth from Step 3; note where the line intercepts the right and left banks; estimate or measure the length of this line.	15	34	24
5: Calculate entrenchment ratio.	Divide the flood prone width (Step 4) by the bankfull width (Step 1).	2.1	2.8	0
6: Calculate average entrenchment ratio.	Calculate the average results for Step 5 for all 3 replicate cross-sections. Enter the average result here and use it in Table 13a or 13b.			1.6

Structural Patch Type Worksheet for Riverine wetlands

Circle each type of patch that is observed in the AA and enter the total number of observed patches in Table below. In the case of riverine wetlands, their status as confined or non-confined must first be determined (see page 6) to determine with patches are expected in the system (indicated by a "1" in the table below). Any feature onsite should only be counted once as a patch type. If a feature appears to meet the definition of more than one patch type (i.e. swale and secondary channel) the practitioner should choose which patch type best illustrates the feature. Not all features at a site will be patch types.

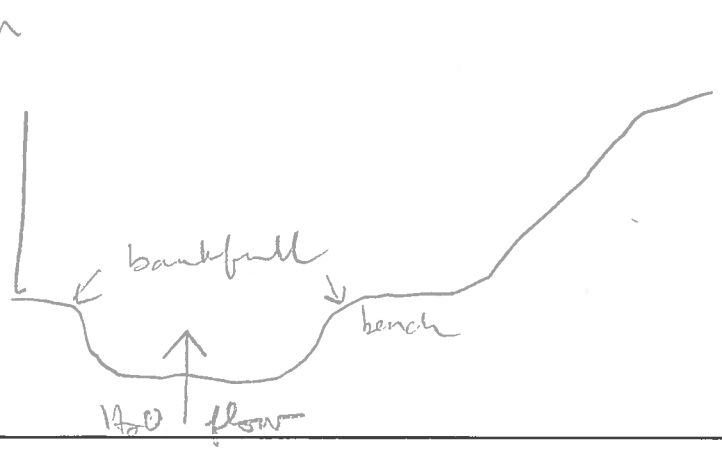
Please refer to the CRAM Photo Dictionary at** www.cramwetlands.org **for photos of each of the following patch types.

STRUCTURAL PATCH TYPE (circle for presence)	**Riverine (Non-confined)**	**Riverine (Confined)**
Minimum Patch Size	**3 m^2**	**3 m^2**
Abundant wrackline or organic debris in channel, on floodplain	1	1
Bank slumps or undercut banks in channels or along shoreline	1	1
Cobbles and/or Boulders	1	1
Debris jams	1	1
Filamentous macroalgae or algal mats	1	1
Large woody debris ?	1	1
Pannes or pools on floodplain	1	N/A
Plant hummocks and/or sediment mounds ?	1	1
Point bars and in-channel bars	1	1
Pools or depressions in channels (wet or dry channels)	1	1
Riffles or rapids (wet or dry channels)	1	1
Secondary channels on floodplains or along shorelines	1	N/A
Standing snags (at least 3 m tall)	1	1
Submerged vegetation	1	N/A
Swales on floodplain or along shoreline	1	N/A
Variegated, convoluted, or crenulated foreshore (instead of broadly arcuate or mostly straight)	1	1
Vegetated islands (mostly above high-water)	1	N/A
Total Possible	**17**	**12**
No. Observed Patch Types (enter here and use in Table 14 below)		7

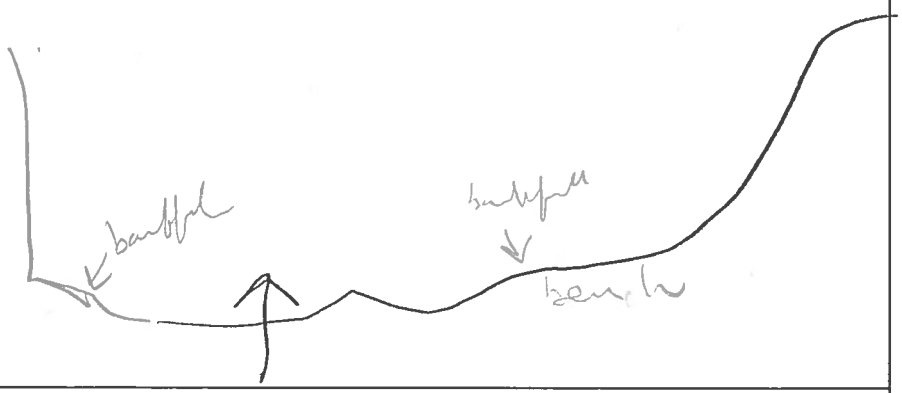
Worksheet for AA Topographic Complexity

At three locations along the AA, make a sketch of the profile of the stream from the AA boundary down to its deepest area then back out to the other AA boundary. Try to capture the benches and the intervening micro-topographic relief. To maintain consistency, make drawings at each of the stream hydrologic connectivity measurements, always facing downstream. Include the water level, an arrow at the bankfull contour, and label the benches. Based on these sketches and the profiles in Figure 10, choose a description in Table 16 that best describes the overall topographic complexity of the AA.

Profile 1



Profile 2



Profile 3

Plant Community Metric Worksheet: Co-dominant species richness for Riverine wetlands

(A dominant species represents ≥10% *relative* cover)

Special Note:

** Combine the counts of co-dominant species from all layers to identify the total species count. Each plant species is only counted once when calculating the Number of Co-dominant Species and Percent Invasion submetric scores, regardless of the numbers of layers in which it occurs.*

Floating or Canopy-forming (non-confined only)	Invasive?	Short (<0.5 m)	Invasive?
Medium (0.5-1.5 m)	**Invasive?**	**Tall (1.5-3.0 m)**	**Invasive?**
Very Tall (>3.0 m)	**Invasive?**	**Total number of co-dominant species for all layers combined (enter here and use in Table 18)**	3
Salix las	N		
Was rob	Y		
Salix gob	N	**Percent Invasion *Round to the nearest integer* (enter here and use in Table 18)**	33%

Horizontal Interspersion Worksheet.

Use the spaces below to make a quick sketch of the AA in plan view, outlining the major plant zones (this should take no longer than 10 minutes). Assign the zones names and record them on the right. Based on the sketch, choose a single profile from Figure 12 that best represents the AA overall.

Assigned zones:

1) Non-native veg (palms)
2) SWS-D
3)
4)
5)
6)

Worksheet for Wetland disturbances and conversions

Has a major disturbance occurred at this wetland?	Yes	No		
If yes, was it a flood, fire, landslide, or other?	flood	fire	landslide	other
If yes, then how severe is the disturbance?	likely to affect site next 5 or more years	likely to affect site next 3-5 years	likely to affect site next 1-2 years	
Has this wetland been converted from another type? If yes, then what was the previous type?	depressional	vernal pool	vernal pool system	
	non-confined riverine	confined riverine	seasonal estuarine	
	perennial saline estuarine	perennial non-saline estuarine	wet meadow	
	lacustrine	seep or spring	playa	

Stressor Checklist Worksheet

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Point Source (PS) discharges (POTW, other non-stormwater discharge)		
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)	✓	Yes
Flow diversions or unnatural inflows		
Dams (reservoirs, detention basins, recharge basins)		
Flow obstructions (culverts, paved stream crossings)	✓	Yes
Weir/drop structure, tide gates		
Dredged inlet/channel		
Engineered channel (riprap, armored channel bank, bed)		
Dike/levees		
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**		
Plowing/Discing **(N/A for restoration areas)**		
Resource extraction (sediment, gravel, oil and/or gas)		
Vegetation management		
Excessive sediment or organic debris from watershed		
Excessive runoff from watershed		
Nutrient impaired (PS or Non-PS pollution)		
Heavy metal impaired (PS or Non-PS pollution)		
Pesticides or trace organics impaired (PS or Non-PS pollution)		
Bacteria and pathogens impaired (PS or Non-PS pollution)		
Trash or refuse		
Comments		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation		
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* and domestic predators, such as feral pets)		
Tree cutting/sapling removal		
Removal of woody debris		
Treatment of non-native and nuisance plant species		
Pesticide application or vector control		
Biological resource extraction or stocking (fisheries, aquaculture)		
Excessive organic debris in matrix (for vernal pools)		
Lack of vegetation management to conserve natural resources		
Lack of treatment of invasive plants adjacent to AA or buffer	✓	
Comments		

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Significant negative effect on AA
Urban residential		
Industrial/commercial	✓	Yes
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture		
Orchards/nurseries		
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor		
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
Passive recreation (bird-watching, hiking, etc.)		
Active recreation (off-road vehicles, mountain biking, hunting, fishing)		
Physical resource extraction (rock, sediment, oil/gas)		
Biological resource extraction (aquaculture, commercial fisheries)		
Comments		

Memorandum

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Date: April 23, 2018

To: Travis Whitney, City of San Diego (City) Transportation and Storm Water Department (T&SWD)

Cc: Anne Jarque, City T&SWD
Shelby Howard, HELIX

From: Katie Bellon, HELIX Environmental Planning, Inc. (HELIX)

Subject: South Chollas Creek Channel MMP Map 101 Jurisdictional Delineation

HELIX Proj. No.: SDD-24.45.1

Message:

Below please find information on HELIX's jurisdictional delineation of the South Chollas Creek Channel Map 101 in support of a Preliminary Jurisdictional Determination (PJD) request to the U.S. Army Corps of Engineers (USACE). The information below fulfills the Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (Minimum Standards) dated March 16, 2017. Information is numbered 1 through 20 to correspond to numbered items 1 through 20 in the Minimum Standards.

1. Attached please find the Preliminary Jurisdictional Determination Form (Attachment 1).

2. Contact Information is provided as follows:

    a. Applicant: Roger Wammack
    City of San Diego, Storm Water Division, Operations & Maintenance Section
    2781 Caminito Chollas, MS 46
    San Diego, CA 92105
    619-527-3173

    b. Owner: City of San Diego
    2781 Caminito Chollas, MS 46
    San Diego, CA 92105

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c. Agent: Travis Whitney
City of San Diego, Storm Water Division, Operations & Maintenance Section
2781 Caminito Chollas, MS 46
San Diego, CA 92105
619-527-7545

3. Please contact Travis Whitney (City T&SWD) prior to entering the property.

4. South Chollas Creek Map 101 occurs east of Interstate 805 and south of State Route (SR) 94, and west of SR 125 in the Emerald Hills community. The Map 101 maintenance area runs approximately 1,420 feet southwest from Winnett Street to Federal Boulevard, bordering the southern side of SR 94. Street parking is available on Federal Boulevard in front of 6088 Federal Boulevard, San Diego, CA 92114 (Latitude: 32.72802, Longitude -117.06825).

5. This preliminary jurisdictional delineation was completed using the 1987 Corps of Engineers Wetland Delineation Manual and the 2008 U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Areas were determined to be non-wetland WUS if there was evidence of regular surface flow (e.g., bed and bank) but either the vegetation or soils criterion was not met. Ordinary High Water Mark (OHWM) was identified according to A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States" (August 2008).

6. The South Chollas Creek Map 101 channel is subdivided into three separate "reaches" for hydraulic analysis. The proposed channel maintenance would occur within a portion of Reach 2 and all of Reach 3. No maintenance is proposed in Reach 1. The area proposed to be maintained in Reach 2 consists of the easternmost 50 feet of earthen-bottom channel and is considered a vegetated USACE-jurisdictional area, as wetland waters of the U.S. (southern riparian forest – disturbed vegetation community). Reach 3, the remaining 1,370 linear feet of Map 101, is concrete-lined and considered unvegetated USACE jurisdictional areas; therefore, Reach 3 is considered non-wetland waters of the U.S.

7. The required maps of WUS within the survey area are included as Attachment 2.

8. Field work for the preliminary jurisdictional delineation occurred on December 7, 2016.

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9. Table 1 below lists all aquatic resources included in the PJD request.

Table 1
AQUATIC RESOURCES

Name	Cowardin Class	Acreage	Type	Dominant Vegetation	Lat/Long	Length (ft)	Width at Bottom/ Width at Top (ft)
Map 101; Reach 2	Palustrine-Scrub Shrub	0.04	Wetland/ Riparian	Southern Riparian Forest	32.727985 -117.068347	50	15-24/40
Map 101; Reach 3	Riverine	0.16	Riverine	Unvegetated	32.728642; -117.066303	1,370	15-24/35

10. The channel, staging area, and loading area in Map 101 is zoned RS-1-7 (Residential-Single Unit) and CO-2-1 (Commercial Office). According to the Federal Emergency Management Agency (FEMA), the channel is located within the 100-year floodway. Additionally, the project is located within the Special Flood Hazard Areas Subject to Inundation by the 1% Annual Chance Flood as well as the 0.2% Annual Chance Flood areas. The FEMA Flood Insurance Rate Map (FIRM) from the project's Individual Hydrologic & Hydraulic Assessment (IHHA) is included as Attachment 3. The channel is located within the Pueblo San Diego Hydrologic Unit and San Diego Bay Watershed Management Area. The site is not located but is adjacent to the MHPA which is located approximately 500 feet downstream to the west; however, no portion of the project is located within the Coastal Zone.

11. South Chollas Creek runs through a commercial area between Federal Boulevard and Winnett Street. The channel, staging area, and loading area is zoned RS-1-7 (Residential-Single Unit) and CO-2-1 (Commercial Office). The channel is within the Pueblo San Diego Hydrologic Unit and National City Hydrologic Area. The site entire is located within the Pueblo San Diego watershed and the San Diego Bay Watershed Management Area. The site is located adjacent to the MHPA; however, no portion of the project is located within the Coastal Zone.

    The site is not irrigated. The channel has been subject to maintenance to remove accumulated sediment and vegetation. The 2015/2016 wet season produced above average rainfall, as shown in the below WETS table. Therefore, aquatic features would have been readily apparent when HELIX conducted the jurisdictional delineation in early December of 2016.

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Table 2
AGACIS WETS TABLE: MONTHLY TOTAL PRECIPITATION FOR SAN DIEGO 3.5NE, CA

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2009	M	3.84	0.08	0.08	0.02	0.02	0.00	0.01	0.00	0.11	M	M	4.16
2010	M	3.72	0.91	M	T	T	0.01	0.00	0.00	M	M	9.21	13.85
2011	0.63	3.41	M	0.37	0.96	0.05	0.00	0.00	0.15	0.55	3.60	1.14	10.86
2012	0.75	1.72	2.10	1.31	0.05	0.00	0.02	0.00	0.00	0.44	0.37	M	6.76
2013	1.69	0.83	1.66	0.13	M	0.00	0.01	0.00	0.00	0.55	0.24	0.39	5.50
2014	0.04	1.23	2.07	M	0.00	0.00	0.00	0.04	0.00	0.00	1.03	M	4.41
2015	0.51	0.21	1.01	0.11	2.03	0.00	2.09	0.04	M	0.50	2.13	M	8.63
2016	M	0.17	M	0.86	0.65	0.00	0.00	0.00	M	0.19	M	4.25	6.12
2017	M	5.99	0.22	0.00	1.04	0.03	0.00	0.02	0.14	0.00	0.01	0.15	7.60
Mean	**0.72**	**2.35**	**1.15**	**0.41**	**0.59**	**0.01**	**0.24**	**0.01**	**0.04**	**0.29**	**1.23**	**3.03**	**7.54**

12. Hydrology: The channel is within the Pueblo San Diego Hydrologic Unit and National City Hydrologic Area. Map 101 receives storm flow from the channel upstream and adjacent areas. Map 101 discharges to the west under Federal Boulevard.

13. Remote sensing used in the delineation consisted of publicly available U.S. Geological Survey (USGS) topography and aerial photographs viewed through Google Earth and www.historicaerials.com, as well as the SanGIS aerial photograph and site survey topo lines shown on the map. Aerial photographs were used to determine past conditions and confirm current conditions observed in the field.

    A soils map is included as Attachment 4. According to the Web Soil Survey, soils within Map 101 consists primarily of Olivenhain-Urban land complex, 2 to 9 percent slopes with a small portion of made land. Neither soil is rated as hydric soils according to the Natural Resources Conservation Service State Soil Data Access (SDA) Hydric Soils List. Hydric soils were not verified through the excavation of soil pits, although soil mapping units were assessed for hydric soil status. Hydric soils in the channel were not verified through the excavation of soil pits, although soil mapping units were assessed for hydric soil status.

14. A site location map is included as Figure 4 of the Individual Biological Assessment (IBA; Attachment 5). The South Chollas Creek Channel is located in un-sectioned lands on the National City USGS 7.5-minute quadrangle map.

15. This site only has one aquatic feature.

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16. The delineation map is included as Attachment 2 and meet the requirements of the Final Map and Drawing Standards for the South Pacific Regulatory Program.

17. Representative photographs are included as Site Photos in the IBA. Photo locations and directions are shown on Attachment 6.

18. The preliminary jurisdictional determination form is included as Attachment 1.

19. Prior to beginning fieldwork, recent aerial photographs (1"=200'), USGS Hydrologic Atlas, and USGS topographical maps were reviewed to determine the location of potential jurisdictional areas. All areas with depressions, drainage channels, or wetlands vegetation were evaluated for the potential presence of WUS, including jurisdictional wetlands. Aquatic resource boundaries observed in the field were mapped using a handheld Trimble GPS unit with sub-meter accuracy.

20. Shapefiles are included as Attachment 7.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: Los Angeles District | File/ORM #: | PJD Date: 3/31/2018

State: CA | City/County: San Diego, San Diego

Nearest Waterbody: South Chollas Creek/Las Chollas Creek/Pacific Ocean

Location: TRS, LatLong or UTM: Un-sectioned lands on the National City USGS 7.5-minute quadrangle map

Name/ Address of Person Requesting PJD: Katie Bellon
HELIX Environmental Planning
7578 El Cajon Boulevard
La Mesa, CA 91942

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: 1,370 linear ft | width 0.16 acres | Stream Flow: Ephemeral

Wetlands: 0.04 acre(s) | Cowardin Class: Palustrine, scrub-shrub

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: None | Non-Tidal: None

☐ Office (Desk) Determination
☑ Field Determination: Date of Field Trip: Dec 7, 2016

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: see Attachments 2 and 4
- ☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: National City
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation:
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: Map 06073C1902
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☐ Aerial (Name & Date):
  - ☑ Other (Name & Date): see Attachment 5
- ☐ Previous determination(s). File no. and date of response letter:
- ☑ Other information (please specify): See notes

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office	Los Angeles District	File/ORM #		PJD Date:	Mar 31, 2018
State	CA	City/County	San Diego, San Diego	Person Requestinq PJD	Katie Bellon

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
Reach 2	32.727985	-117.068347	Palustrine, scrub-shrub	0.04	Non-Section 10 wetland
Reach 3	32.728642	-117.066303	Riverine	0.16	Non-Section 10 non-wetlanc
			n/a		Non-Section 10 wetland
			n/a		Non-Section 10 wetland

Notes:

Map 101 (Reaches 2 and 3): Trapezoidal in cross-section. 1,420' long, (50' earthen bottom, 1,370' concrete-lined) with 15-24' bottom width and 35-40' top width.

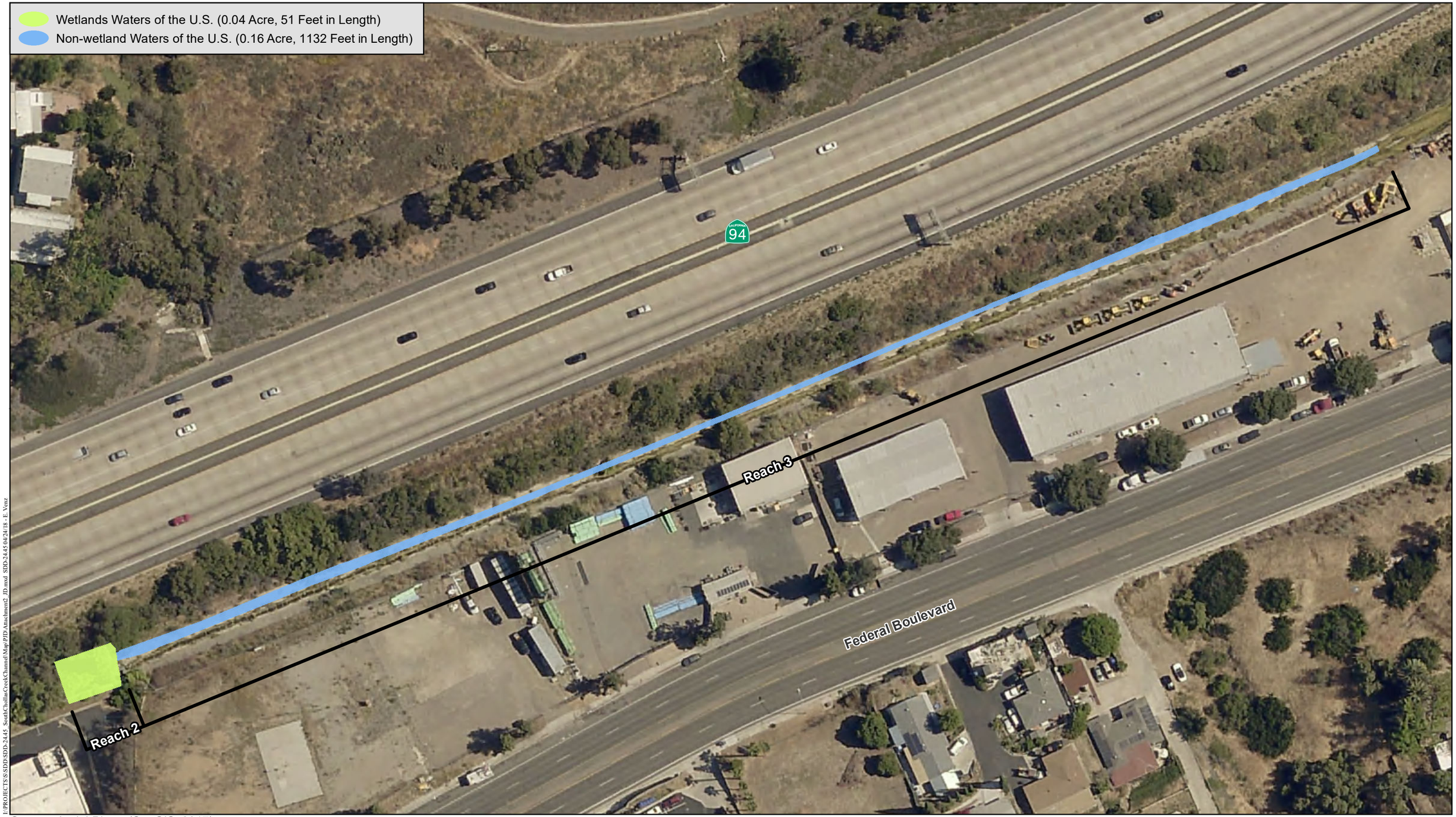
Reach 2: riverine (Cowardin Code R6), 1,370' of concrete-lined channel containing 0.16 acre of non-wetland waters of the U.S.

Reach 3: palustrine shrub-scrub (Cowardin Code PSS), 50' of earthen bottom containing 0.04 acre of wetland waters of the U.S.

REFERENCES:

HELIX Environmental Planning, Inc. (HELIX). 2018. Individual Biological Assessment Report for the South Chollas Creek Channel. March 28.

2011. Master Storm Water System Maintenance Program Final Program Environmental Impact Report SCH. No. 2005101032; Project No. 42891, APPENDIX D.1 Biological Resources Report. May.



I:\PROJECTS\S\SDD\SDD-2445 - South Chollas Creek Channel\Map\PJD Attachment2_JD.mxd SDD-2445 04/24/18 - E. Venz

Source: Aerial Photo (SanGIS, 2017)

Potential Waters of the U.S., South Chollas Creek Channel – Map 101

SOUTH CHOLLAS CREEK CHANNEL

HELIX Environmental Planning

1 inch = 75 ft

0 75 Feet

Attachment 2

NOTES TO USERS

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

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

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

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

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

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

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

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

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

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

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

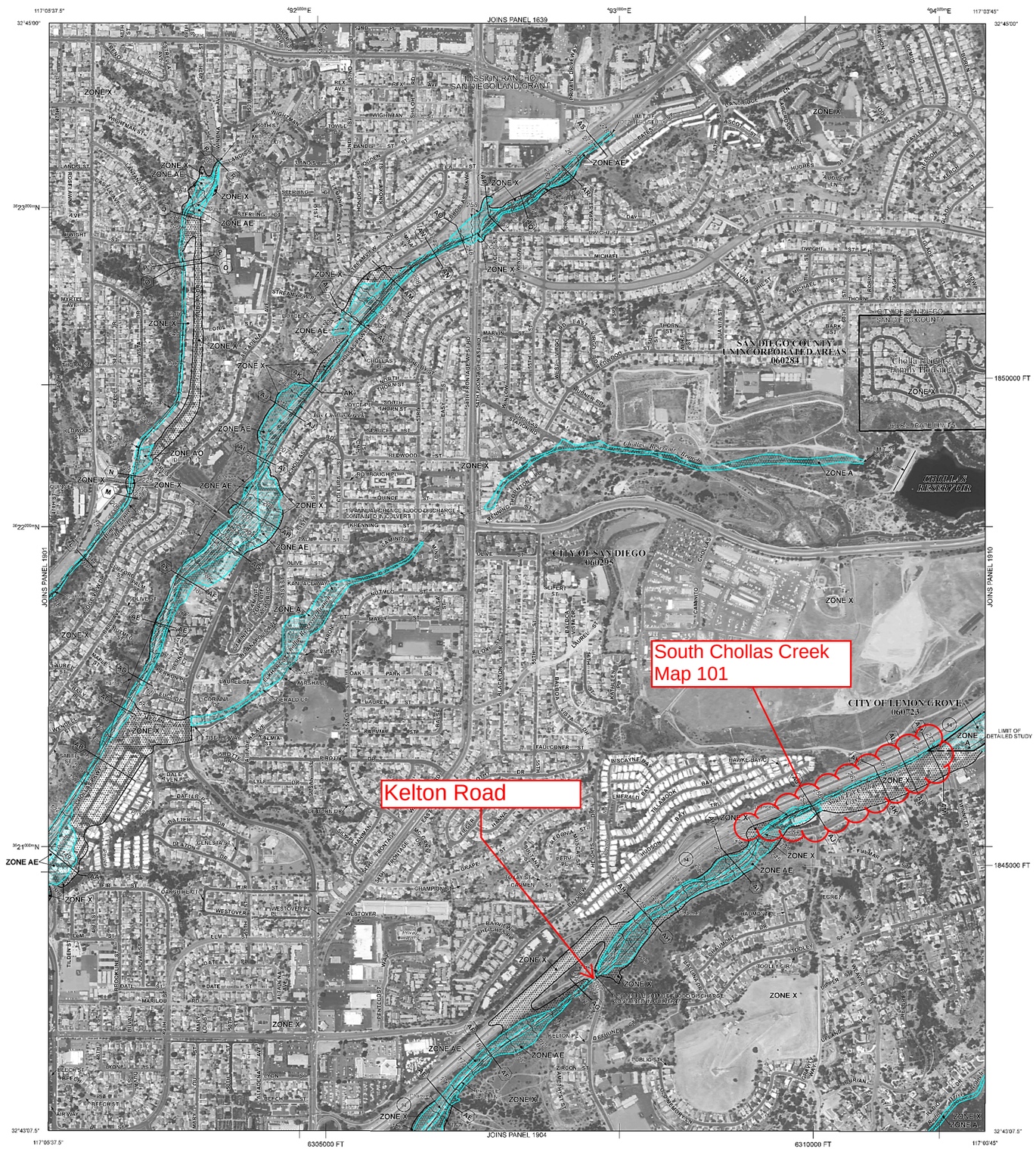
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

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

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

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

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



LEGEND

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

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equalled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

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

OTHER FLOOD AREAS

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

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

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

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
513 (EL 987)	Base Flood Elevation line and value; elevation in feet*
	Base Flood Elevation value where uniform within zone; elevation in feet*
	* Referenced to the North American Vertical Datum of 1988
A — A	Cross section line
23 — 23	Transect line
97°07'30", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
4275000mE	1000-meter Universal Transverse Mercator grid ticks, zone 11
6000000 FT	5000-foot grid values: California State Plane coordinate system, Zone VI (FIPSZONE = 406), Lambert projection
DX5510	Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5	River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
June 19, 1997

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
May 16, 2012 – to update corporate limits, to add roads and road names, to incorporate previously issued Letters of Map Revision, and to update map elevations to North American Vertical Datum of 1988.

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

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 250 500 750 1,000 FEET
150 0 150 300 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1902G

FIRM

FLOOD INSURANCE RATE MAP

SAN DIEGO COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 1902 OF 2375

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LEMON GROVE, CITY OF	060723	1902	G
SAN DIEGO COUNTY	060284	1902	G
SAN DIEGO, CITY OF	060295	1902	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06073C1902G

MAP REVISED
MAY 16, 2012

Federal Emergency Management Agency

I:\PROJECTS\SSDD\SDD-2445_SouthCholllasCreekChannel\Mxp\PID\Attachment3_Soils.mxd SDD-2445 05/05/17 - Ronald Phillips

Source: Aerial Photo (SanGIS 2014), Soils (USDA, Natural Resources Conservation Service 2005)

Soils

SOUTH CHOLLAS CREEK CHANNEL

HELIX Environmental Planning

1 inch = 100 ft

0 150 Feet

Attachment 4

Photo Notes: Map 101, looking downstream from within the earthen maintenance area (12/7/16).

Photo Notes: Map 101, just west of upstream boundary looking upstream (2/21/18).

Photo Notes: Map 101, looking downstream (west) from the east end of the maintenance area (2/21/18).

Photo Notes: Map 101, looking upstream (east) (2/21/18).

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
Suite 200
La Mesa, CA 91942
619.462.1515 **tel**
619.462.0552 **fax**
www.**helixepi**.com

August 10, 2017 SDD-24.45

Ms. Stacey Love
U.S. Fish & Wildlife Service
2177 Salk Ave., Suite 250
Carlsbad, CA 92008

Subject: 2017 Least Bell's Vireo (*Vireo bellii pusillus*) Survey Report for the City of San Diego South Chollas Creek Channel Maintenance Project

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey for the least Bell's vireo (*Vireo bellii pusillus*; LBVI) conducted by HELIX Environmental Planning, Inc. (HELIX) for the City of San Diego Transportation and Storm Water Department's proposed South Chollas Creek Channel Maintenance Project. This letter describes the survey methods and results and is being submitted to the USFWS in accordance with protocol survey guidelines.

PROJECT LOCATION

The South Chollas Creek Channel study area is approximately 19.0 acres and located in the communities of Emerald Hills and Southcrest in the City of San Diego (City), California (Figure 1). The study area consists of four channel segments: Maps 95/97, 97a, 98, and 101. The study area is located in unsectioned lands in Township 17 South, Range 2 West on the National City U.S. Geological Survey 7.5-minute quadrangle map (Figure 2). An aerial photograph of the study area is shown in Figure 3. Elevations range from approximately two to 85 meters (eight to 280 feet) above mean sea level. The South Chollas Creek Channel generally flows west and ultimately joins the Chollas Creek. The LBVI survey area encompassed segments of the South Chollas Creek Channel that contained potentially suitable riparian habitat and occurred within a one-mile radius of a recorded USFWS, California Natural Diversity Database (CNDDB), or SanBIOS database LBVI historical record. According to the USFWS, CNDDB, and SanBIOS databases, LBVI has only been reported within one-mile of the Map 101 survey area. The Map 101 survey area is provided in Figure 4 and extends from Winnett Street to Federal Boulevard.

Maps 95/97, 97a, and 98 are not located within one-mile of a LBVI historical record and these channel segments were not surveyed.

METHODS

The survey consisted of eight site visits conducted by HELIX biologists Katie Bellon and Summer Schlageter between April 11 and June 23, 2017 (Table 1) in accordance with the current USFWS survey protocol (USFWS 2001). The survey was conducted by walking along the edges of, as well as within, potential LBVI habitat in the Map 101 survey area while listening for LBVI and viewing birds with the aid of binoculars. The Map 101 survey area consists of approximately 0.41 acre of suitable LBVI habitat, consisting of disturbed southern riparian forest and disturbed southern willow scrub (Figure 4). The rest of the habitat in the Map 101 survey area is not suitable for LBVI and was not surveyed.

Table 1
LEAST BELL'S VIREO SURVEY INFORMATION

Site Visit	Date	Biologist	Time (start/stop)	Approximate Acres (ac) Covered/ Survey Rate	Weather Conditions (start/stop)	LBVI Observations
1	4/11/17	Katie Bellon	0745/0845	0.41/ 0.41ac/hr	57ºF, wind 0-1 mph, 15% clouds 58ºF, wind 0-1 mph, 10% clouds	None
2	4/21/17	Katie Bellon	0825/0920	0.41/ 0.45 ac/hr	61ºF, wind 0-1 mph, 0% clouds 69ºF, wind 0-1 mph, 0% clouds	None
3	5/1/17	Summer Schlageter	0729/0830	0.41/ 0.41ac/hr	63ºF, wind 0-1 mph, 0% clouds 64ºF, wind 0-1 mph, 0% clouds	None
4	5/11/17	Katie Bellon	0745/0835	0.41/ 0.49 ac/hr	63ºF, wind 2-3 mph, 5% clouds 63ºF, wind 3-5 mph, 10% clouds	None
5	5/23/17	Katie Bellon	0800/0910	0.41/ 0.35 ac/hr	65ºF, wind 2-3 mph, 5% clouds 66ºF, wind 2-3 mph, 2% clouds	None
6	6/2/17	Katie Bellon	0830/0920	0.41/ 0.49 ac/hr	65ºF, wind 1-2 mph, 100% clouds 65ºF, wind 1-2 mph, 100% clouds	None
7	6/12/17	Katie Bellon	0830/0930	0.41/ 0.41ac/hr	61ºF, wind 0-1 mph, 20% clouds 64ºF, wind 0-1 mph, 15% clouds	None
8	6/23/17	Katie Bellon	0745/0830	0.41/ 0.55ac/hr	68ºF, wind 3-5 mph, 100% clouds 69ºF, wind 3-5 mph, 100% clouds	None

VEGETATION COMMUNITY DESCRIPTIONS

A total of eight vegetation communities/land use types have been identified within the Map 101 study area: disturbed southern riparian forest, disturbed southern willow scrub, freshwater marsh, disturbed wetland (Arundo-dominated), disturbed Diegan coastal sage scrub, ornamental

vegetation, disturbed land, and developed lands (Figure 4). The Map 101 study area is bordered by disturbed Diegan coastal sage scrub or developed land.

The vegetation communities within Map 101 considered suitable LBVI habitat include disturbed southern riparian forest and disturbed southern willow scrub. Habitat within the Map 101 survey area is considered marginally suitable because the potential habitat consists of an isolated patch of riparian vegetation that does not connect to other larger, more contiguous patches of potential habitat. In addition, the vegetation communities occur along a narrow storm channel and the area is surrounded by habitat that is not suitable for LBVI (e.g., Diegan coastal sage scrub and developed land).

RESULTS

No LBVI were observed or detected within or adjacent to the Map 101 survey area during the 2017 survey. Additionally, no brown-headed cowbird (*Molothrus ater*), a known nest parasite of LBVI, was detected during the survey effort.

CERTIFICATION

We certify that the information in this survey report and enclosed exhibit fully and accurately represents our work.

Please contact Jasmine Bakker or Shelby Howard at (619) 462-1515 if you have any questions.

Sincerely,

Katie Bellon
Biologist

Summer Schlageter
Biologist

Enclosures:
Figure 1 Regional Location
Figure 2 Project Vicinity Map (USGS Topography)
Figure 3 Project Vicinity Map (Aerial Photograph)
Figure 4 Vegetation/Least Bell's Vireo Survey Results

REFERENCES

U.S. Fish and Wildlife Service (USFWS). 2001. Least Bell's Vireo Survey Guidelines. January 19.

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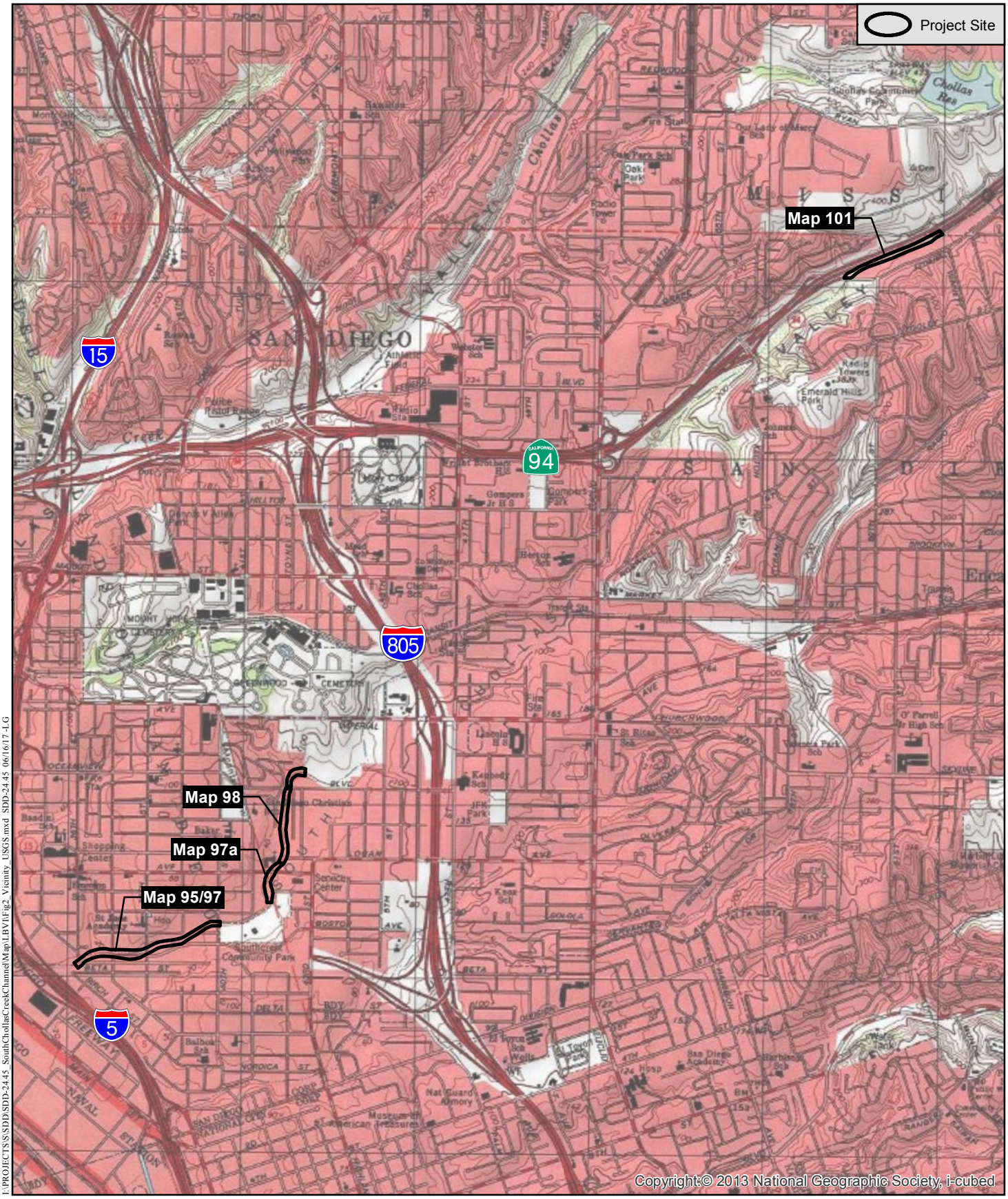
Regional Location

SOUTH CHOLLAS CREEK CHANNEL

HELIX Environmental Planning

N 0 8 Miles

Figure 1



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Project Vicinity Map (USGS Topography)

SOUTH CHOLLAS CREEK CHANNEL

HELIX Environmental Planning

N 0 2,500 Feet

Figure 2

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Project Vicinity Map (Aerial Photograph)

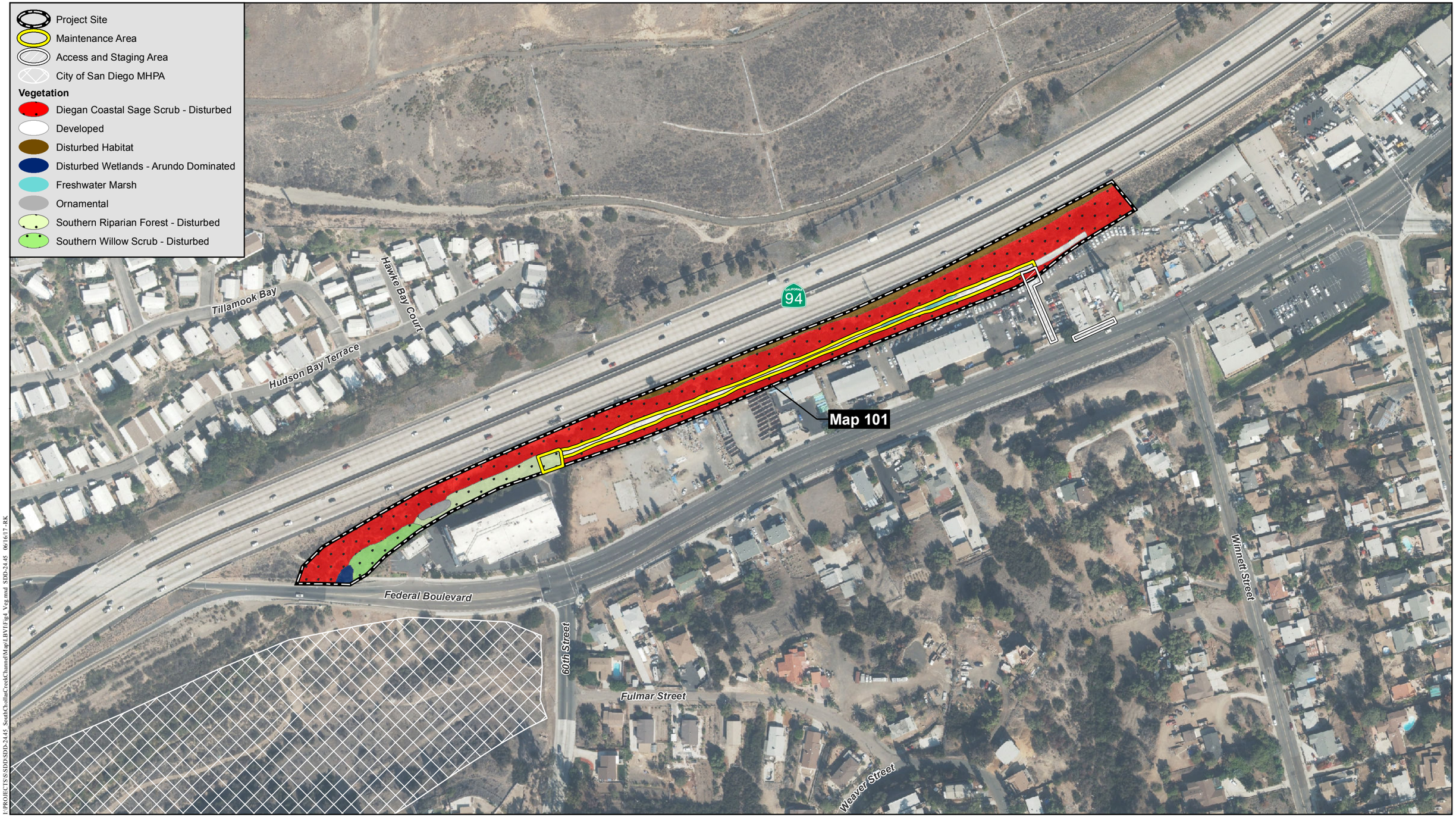
SOUTH CHOLLAS CREEK CHANNEL

HELIX Environmental Planning

N

0 3,000 Feet

Figure 3



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Vegetation/Least Bell's Vireo Survey Results

SOUTH CHOLLAS CREEK CHANNEL

HELIX Environmental Planning

0 200 Feet

Figure 4