Appendix C-2

Aquatic Resources Delineation Report

Final

LOS ANGELES RIVER PHASE IV BIKE PATH PROJECT

Aquatic Resources Delineation Report

Prepared for
City of Los Angeles

November 2024

ESA

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Acronyms and Other Abbreviations

Abbreviation	Definition
1987 Manual	1987 Corps of Engineers Wetland Delineation Manual
APT	Antecedent Precipitation Tool
ARDR	Aquatic Resources Delineation Report
Arid West Supplement	Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CWA	Clean Water Act
EPA	U.S. Environmental Protection Agency
ESA	Environmental Science Associates
FEMA	Federal Emergency Management Agency
LA	City of Los Angeles
NHD	National Hydrography Dataset
NOAA	National Oceanic and Atmospheric Administration
NRCS	United States Department of Agriculture Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	Ordinary High Water Mark
PDSI	Drought index
RPS	Relatively Permanent Standard
RWQCB	Regional Water Quality Control Board
State Water Board	State Water Resources Control Board
State Wetland Definition and Procedures	State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State
TNW	Traditionally Navigable Water
USACE	U.S. Army Corps of Engineers
EPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
WETS	Agricultural Applied Climate Information System (AgACIS) Wetlands climate table
WOTUS	Waters of the United States

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EXECUTIVE SUMMARY

At the request of the City of Los Angeles Department of Public Works, Bureau of Engineering and the Los Angeles Department of Transportation, Environmental Science Associates conducted a site investigation for the Los Angeles River Phase IV Bike Path Project's 21.134-acre Survey Area located in the City of Los Angeles, within the upper Los Angeles River watershed. The purpose of the investigation was to identify and delineate potential wetlands and other waters of the United States and State on the project site, as well as on-site resources that are protected under Section 1600 et seq. of the California Fish and Game Code, to support any necessary permits from the regulatory agencies.

Based on the results of the aquatic resources delineation and the jurisdictional analysis, it is presumed that 0.11-acre of potential wetland waters and 7.57 acres (4,532 linear feet) of potential other (non-wetland) waters of the United States and waters of the State occur within the Survey Area. Finally, it is presumed that 9.49 acres of aquatic resources are potentially jurisdictional under Section 1600 et seq. of the California Fish and Game Code occur within the Survey Area.

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CHAPTER 1
Introduction

At the request of the City of Los Angeles Department of Public Works, Bureau of Engineering (BOE) as lead agency under California Environmental Quality Act (CEQA), and the Los Angeles Department of Transportation (LADOT) as Project proponent, Environmental Science Associates (ESA) conducted a site investigation for the Los Angeles River Phase IV Bike Path Project (Project). The proposed Project would construct a new multi-use trail segment along the south side of the Los Angeles River (LA River) from the existing western terminus of the Los Angeles River Bikeway located just to the west of Riverside Drive westward to approximately 200 feet east of Forest Lawn Drive in the Hollywood Community Plan area of the City of Los Angeles. The total length of the Project is just under one mile (approximately 4,600 feet). The trail segment would include a new paved path on the northern side of the proposed trail alignment for use by pedestrians and cyclists, an equestrian-only unpaved trail on the south side of the alignment, and associated retaining walls, concrete fencing, path lighting, and limited utility relocations.

The site investigation was conducted by ESA to identify and delineate potential wetlands and other waters of the United States and State on the Project site that may be 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); the Los Angeles Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA and the Porter-Cologne Water Quality Control Act; and the California Department of Fish and Wildlife (CDFW) pursuant to Section 1600 et seq. of the California Fish and Game Code.

This aquatic resources delineation report (ARDR) was prepared in accordance with USACE Los Angeles District *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (*USACE 2017) and the *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program* (USACE 2016).

1.1 Survey Location

The proposed Project is located in the City of Los Angeles (LA) on the north side of the Santa Monica Mountains (**Figure 1-1**, **Regional Location**). More specifically, it is located within the U.S. Geological Survey (USGS) Burbank 7.5-minute quadrangle in Township 1 North, Range 14 West, Section 00. The section of bike path where impacts are proposed is situated along a narrow strip between the LA River to the north and State Route 134 (SR-134) to the south; it stretches west to east from Forest Lawn Drive to the Riverside Drive bridge (**Figure 1-2**, **Project Vicinity**). The proposed Project site and surrounding 100-foot buffer is collectively referred to as the Study Area (Figure 1-2).

1.1.1 Directions to the Survey Area

From the USACE Los Angeles office (915 Wilshire Boulevard, Los Angeles, CA 90017), get on CA-110 N from S Figueroa Steet, continue on CA-110 N to Riverside Drive. Take exit 26A from CA-110 N. Get on 1-5 N, and follow 1-5 N to N Zoo Drive. Take exit 144A from 1-5 N. Follow N Zoo Drive and turn right onto Riverside Drive, which crosses the Los Angeles River.

1.2 Contact Information

1.2.1 Applicant

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Los Angeles, CA 90071
Contact information: afrench@esassoc.com

SOURCE: ESA, 2024

Los Angeles River Phase IV Bike Path Project

Figure 1-1
Regional Location

ESA

SOURCE: Mapbox; ESA, 2024

Los Angeles River Phase IV Bike Path Project

Figure 1-2
Project Vicinity

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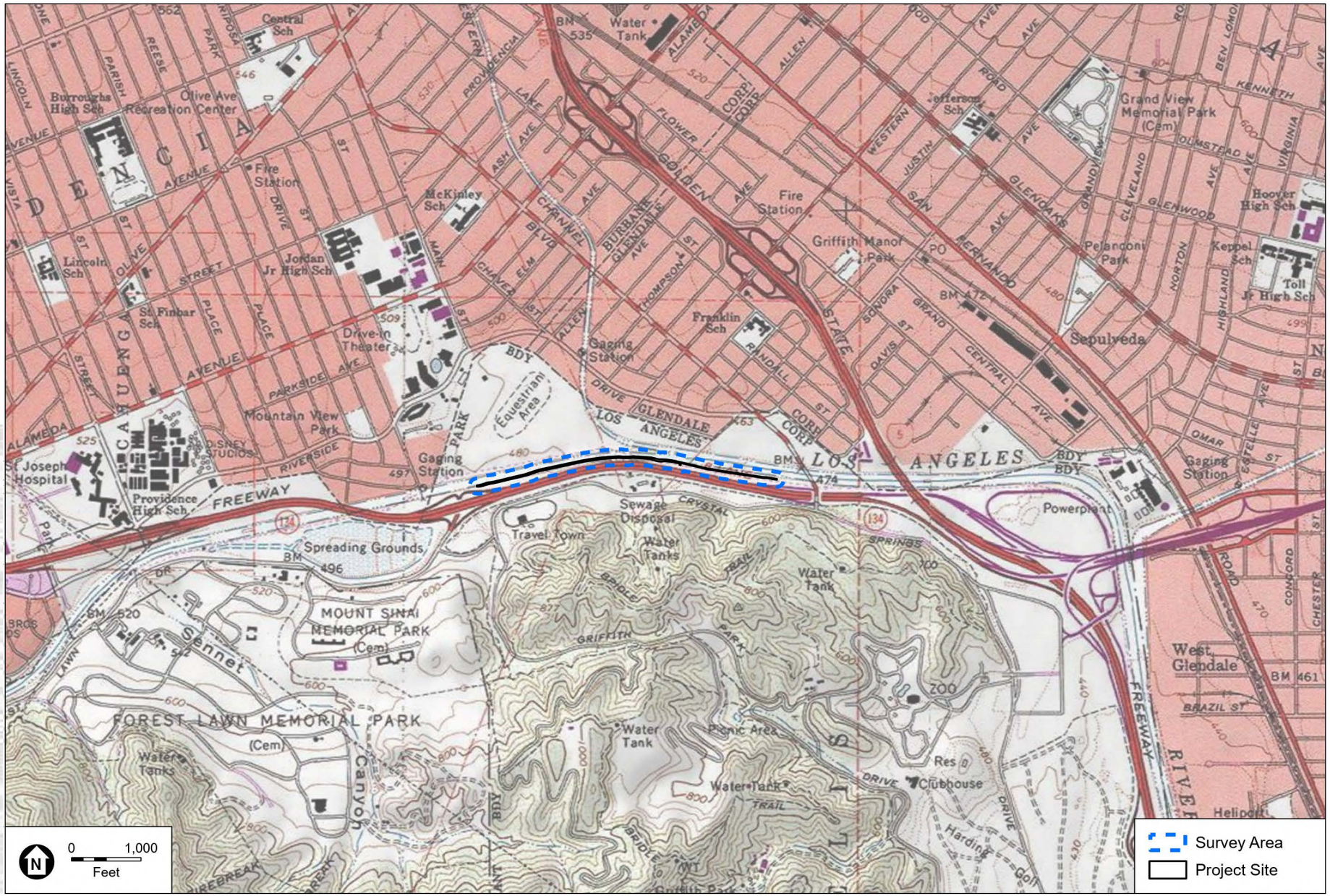

SOURCE: USGS Topo Quad: Burbank, 1975; ESA, 2024

Section 00 Township 1N Range 14W
118.30325° W, 34.15680° N

Los Angeles River Phase IV Bike Path Project

Figure 1-3
U.S. Geological Survey Topographic Map

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CHAPTER 2
Existing Conditions

2.1 Survey Area

The 21.134-acre Survey Area consists of the 2.091-acre Project site and 100-foot buffer around the Project site. Natural plant communities and other habitats within the Survey Area include small pockets of cattail marshes, Goodding's willow – red willow riparian woodland and forest, and landscaped ornamentals. The majority of the Survey Area is covered by open water, developed or disturbed land, and paved roads. Additionally, the disturbed and developed area between SR-134 and the Project site contains a planted strip of shrubs and large trees, including elderberry (*Sambucus mexicana*), coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), and Southern California black walnut (*Juglans californica*) amid ornamentals and sparse non-native grasses.

2.2 Natural Communities and Land Cover Types

A total of seven vegetation communities and land cover types were mapped within the Survey Area which are depicted in **Figure 2-1, Natural Communities and Land Cover Types** and described further below. The natural community and land cover acreages are listed in **Table 2-1, Natural Communities and Land Cover Types within the Survey Area**, below.

TABLE 2-1
NATURAL COMMUNITIES AND LAND COVER TYPES WITHIN THE SURVEY AREA

Natural Community/Land Cover Type	Project Site (acres)	100-foot Buffer (acres)	Total (acres)
Aquatic/Riparian			
Cattail Marshes	0.000	0.002	0.002
Goodding's/Red Willow Riparian Woodland & Forest	0.000	0.009	0.009
Open Water	0.000	7.565	7.565
Developed/Disturbed Land Cover Types			
Developed/Disturbed	2.091	7.229	9.320
Landscaped Parkland/Ornamentals	0.000	0.076	0.076
Paved Roadways	0.000	6.162	6.162
TOTAL	**2.091**	**21.043**	**23.134**

SOURCE: ESA 2024

Cattail Marshes (Typha [*angustifolia, domingensis, latifolia*] Herbaceous Alliance)

Cattail marshes occur on the eastern edge of the Survey Area within a softbottom portion of the Los Angeles River, just northeast of the Project Site. It consists of a dense riparian herbaceous layer dominated by slender cattail (*Typha domingensis*) and broad-leaved cattail (*Typha latifolia*) interspersed with stands of American bulrush (*Schoenoplectus americanus*) and California bulrush (*Schoenoplectus californicus*). Emergent Goodding's willow (*Salix gooddingii*) and non-native species, including white sweetclover (*Melilotus albus*) are present at low cover.

Goodding's Willow – Red Willow Riparian Woodland and Forest (*Salix gooddingii – Salix laevigata* Forest & Woodland Alliance)

Goodding's willow – red willow riparian woodland and forest occurs in eastern portion of the Survey Area within a softbottom portion of the Los Angeles River adjacent the project area. This community is characterized by a tree canopy dominated by Goodding's willow. Black cottonwood (*Populus trichocarpa*) is also present in the tree canopy. The continuous herbaceous layer includes slender cattail, broad-leaved cattail, American bulrush (*Schoenoplectus americanus*), and California bulrush.

Open Water

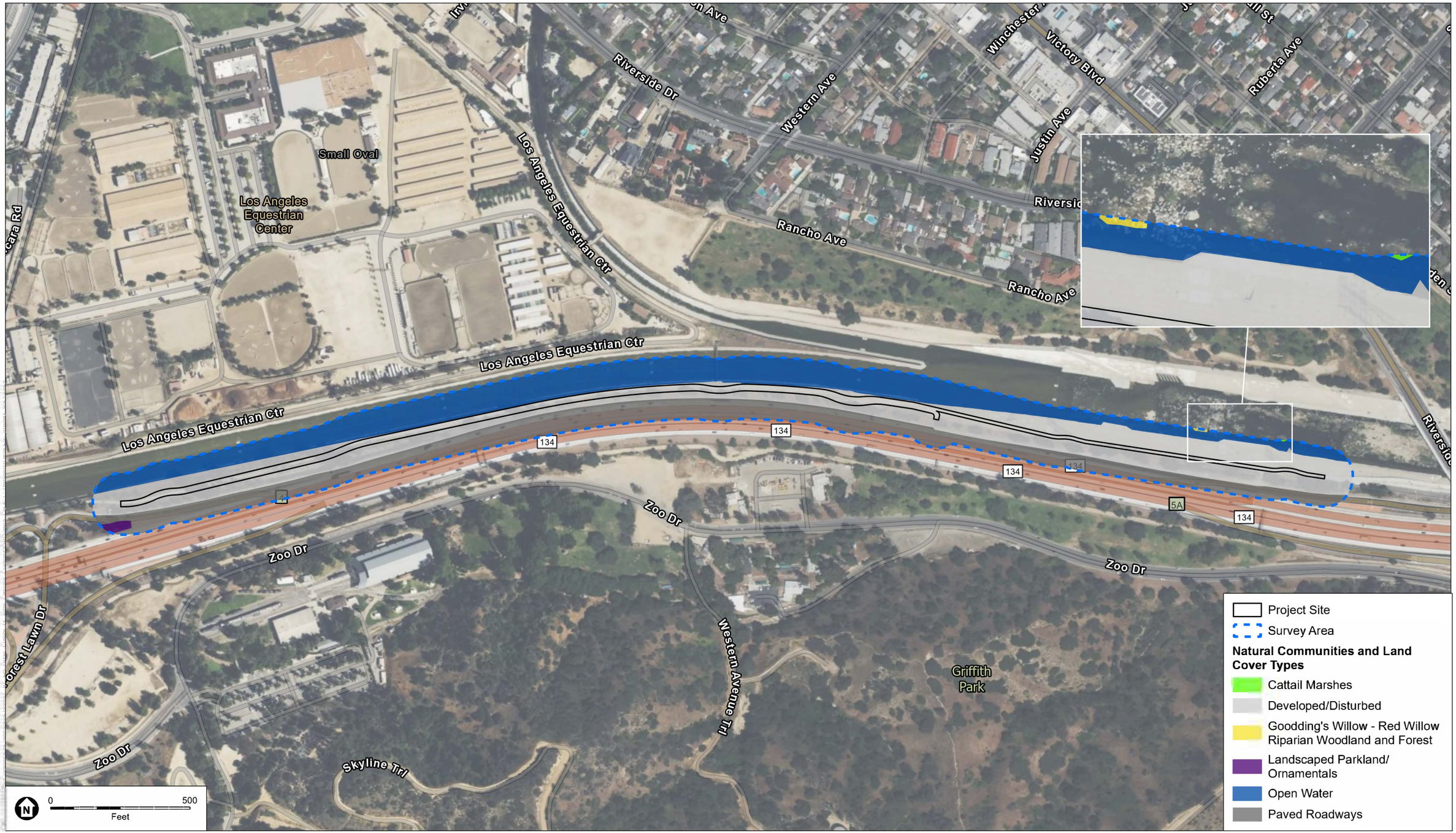
The open water land cover type was mapped throughout a large portion of the Los Angeles River, which bisects the Survey Area along the north side of the Project Site. The majority of the area mapped as open water occurs within the concrete lined channel lacking any vegetation; however submerged vegetation is present within softbottom portions of the channel on the eastern edge of the Survey Area. The boundaries of the cover type are defined by the ordinary high water mark (OHWM) assessed during the aquatic resources delineation.

Developed/Disturbed

Developed/Disturbed land was mapped throughout much of the Survey Area, including throughout the Project Site area. This land cover type is characterized by the presence of significant development or evidence of recent/regular disturbance. Vegetation in these areas is comprised of weedy and/or ornamental species, including crapemyrtle (*Lagerstroemia indica*), European olive (*Olea europea*), Italian thistle (*Carduus pycnocephalus* ssp. *pycocephalus*), lamb's quarter (*Chenopodium album*), Peruvian pepper (*Schinus molle*) and shortpod mustard.

Landscaped Parkland/Ornamentals

Landscaped parklands/ornamentals were mapped in the western edge of the Survey Area within a landscaped highway off-ramp divider. This land cover type is characterized by heavily managed open space. Vegetation in these areas is dominated by an ornamental tree canopy, including Afghan pine (*Pinus eldarica*), Chinese elm, jacaranda (*Jacaranda mimosifolia*), Peruvian peppertree, red ironbark (*Eucalyptus sideroxylon*), and shamel ash (*Fraxinus uhdei*), with a sparse herbaceous layer dominated by Bermuda grass (*Cynodon dactylon*).



SOURCE: ESA, 2024

Los Angeles River Phase IV Bike Path Project

Figure 2-1
Natural Communities and Landcover Types

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Paved Roadways

Paved roadways within the Survey Area are limited to State Route 134 (SR-134). This highway parallels the Project Site to the south and consists of high-traffic, paved areas lacking vegetation.

2.3 Soils

Topography within the Survey Area generally slopes in a south-to-north orientation, ranging between an elevation of approximately 604 feet above mean sea level (amsl) near the Griffith Park foothills down to 449 feet amsl in the LA River bed (see **Figure 2-1, *Natural Communities and Land Cover Types***). Based on a review of the NRCS Web Soil Survey, three soil types were documented within the survey area: urban land, frequently flooded, 0 to 5 percent slopes; urban land-metz-pico complex, 0 to 2 percent slopes; and xeropsamments, frequently flooded, 0 to 2 percent slopes (NRCS 2024; see **Attachment A, Figure 3, Soils Map**). A brief description of each soil type is provided below.

Urban Land, Frequently Flooded, 0 to 5 percent slopes

Urban land, frequently flooded is a landform comprised of manufactured drainage channels with a very high runoff class and zero inches to a manufactured layer; it is not considered a hydric soil (NRCS 2024). This soil type occurs in much of the Los Angeles River and covers most of the Project impact area.

Urban Land-Metz-Pico Complex, 0 to 2 percent slopes

The urban land-Metz-Pico soil complex occupies most of the area south of the Project Site as well as some portions of the project impact area. The soils in this complex are not considered hydric soils (NCRS 2024).

Urban Land

Urban land is a manufactured soil type with a very high runoff class and zero inches to a manufactured layer (NRCS 2024).

Metz

Metz soils are somewhat excessively drained soils. Its parent material is residuum derived from granite and/or sedimentary rock. Depth to a restrictive layer is greater than 80 inches. The profile consists of loamy sand 0 to 18 inches, sand 18 to 37 inches, silt loam 37 to 49 inches, and sand 49 to 79 inches (NRCS 2024).

Pico

Pico soils are well drained soils. Its parent material is residuum derived from granite and/or sedimentary rock. Depth to restrictive feature is greater than 80 inches. The profile consists of loam 0 to 5 inches, very fine loamy sand 5 to 18 inches, fine loamy sand 18 to 47 inches, and fine sand 47 to 79 inches (NCRS 2024).

Xeropsamments, Frequently Flooded, 0 to 2 percent slopes

Xeropsamments, frequently flooded soils occur within the Los Angeles River on the eastern side of the Survey Area adjacent the Project Site. These soils are somewhat excessively drained. The parent material is alluvium derived from granite. Depth to restrictive feature greater than 80 inches. The profile consists of stratified sand 0 to 79 inches. The soils in this complex are not considered hydric soils (NCRS 2024).

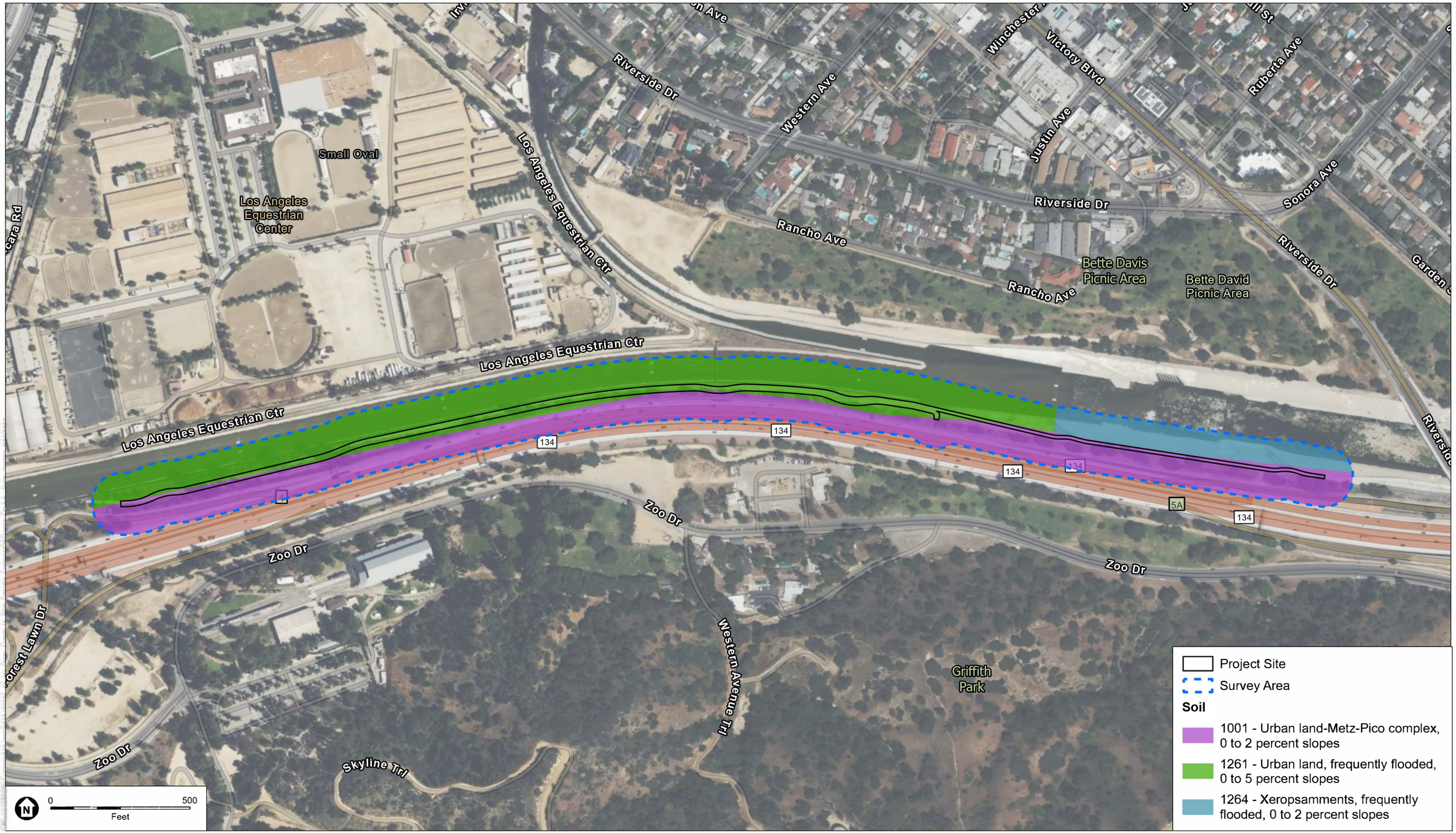
2.4 Hydrology

The Survey Area is within the Tujunga Wash-Los Angeles River Subwatershed (USGS Hydrologic Unit Code 12-180701050208) (USGS 2024a). The overall elevation gradient within the Survey Area is relatively flat. Hydrology generally flows in a west-to-east direction within the Survey Area. Beyond the Survey Area, the Los Angeles River continues for approximately 33 river miles, and receives water from several sources, including Verdugo Wash, Arroyo Seco, Rio Hondo, and Compton Creek, before terminating at the Pacific Ocean. A total of 11 culvert outlets were identified to convey flows into the Los Angeles River within the Survey Area; these culverts convey stormwater runoff from the surrounding developed urban and parkland areas. The National Hydrography Dataset (NHD) and National Wetland Inventory (NWI) were queried to identify known aquatic resources within the Survey Area, the results of which are depicted in **Figure 2-3, National Wetlands Inventory, National Hydrography Dataset, and FEMA Flood Zones**. A perennial blue line river is shown, which corresponds to the Los Angeles River. The nearest stream gauge is the Los Angeles R a Sepulveda Dam Station No. 11092450, which is located along the Los Angeles River, approximately ten river miles downstream of the Survey Area. Monthly mean discharge through the USGS stream gage data for the ten-year span between 2014 and 2024 is provided in cubic feet per second in **Table 2-2, Monthly Mean Discharge for U.S. Geological Survey Station 11092450, Los Angeles R A Sepulveda Dam CA**. The Los Angeles River is perennial based on stream gauge data and designation as a Navigable Water (USEPA 2010).

TABLE 2-2
MONTHLY MEAN DISCHARGE FOR U.S. GEOLOGICAL SURVEY STATION [11092450]
LOS ANGELES R A SEPULVEDA DAM CA

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	-	-	-	-	-	-	63.5	63.7	61.7	51.1	77.8	221.9
2015	100.6	68.6	98.9	58.2	55.5	48	65.8	46.2	76.1	45	48.4	55.2
2016	183	72.5	127.9	64	59.1	48.9	48.3	47.1	48	55.5	83.7	185.6
2017	423.9	518.3	110	54.9	51.6	47.2	39.1	39.1	47.5	50.3	52.6	57.2
2018	160.7	46.3	191.7	35.2	36.3	43	42	47.9	45.9	49.7	71.8	132.1
2019	325.2	391.6	144	41.2	59.1	49.3	37.6	45	44.2	38.3	100.5	239.2
2020	60.5	60.8	257.3	217.5	47.9	38.1	32.8	39.8	48.4	49.1	47.1	94.7
2021	104.9	43.8	92.6	30.9	37.2	28.2	30.2	49.6	65.5	77.6	59.2	497.8
2022	63.6	56.9	98.1	63.4	48.2	40.5	35.1	42.4	49	48.5	100.8	169
2023	608.5	523.8	473.9	76.3	80.8	55.9	60.4	233.8	63	53	56.6	178.3
2024	56.8	921.3	314.8	133.8	71.4	-	-	-	-	-	-	-
Mean of Monthly Discharge	209	270	191	78	55	44	45	65	55	52	70	18

SOURCE: USGS and USDOI 2024



SOURCE: USDA NRCS, 2019; ESA, 2024

Los Angeles River Phase IV Bike Path Project

Figure 2-2
Soils

ESA

SOURCE: NHD, 2024; NWI, 2024; FEMA, 2024; ESA, 2024

Los Angeles River Phase IV Bike Path Project

Figure 2-3
National Wetlands Inventory, National Hydrography Dataset, and FEMA Flood Zones

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2.5 Climate

The Survey Area experiences a Mediterranean climate characterized by warm, dry summers and cool winters with relatively low rainfall. Average highs for Los Angeles, California range between 67 and 79 degrees, while average lows range between 51 and 62 degrees. Los Angeles gets about 18.67 inches of rain a year (World Climate 2024).

Agricultural Applied Climate Information System Wetlands Climate Table

The Agricultural Applied Climate Information System (AgACIS) Wetlands (WETS) climate table for Los Angeles, California is included below in **Table 2-3, Wets Table: Monthly Total Precipitation for Burbank Valley Pump Plant, CA,** for 2016 through 2024. The aquatic resources delineation for the project site occurred on July 30, 2024. Historically (over a 30-year sampling period[1]), the month of July has experienced 0.04-inch mean rainfall levels (NOAA 2024). The preceding month of June has experienced 0.10-inch mean amounts of rainfall levels (NOAA 2024). During the delineation, 0.03 inch of precipitation was recorded in the region (NOAA 2024), just below the annual mean. The total precipitation for the three previous months of April (0.84 inch), May (0.04 inch), and June (0 inches) were just below the historic annual mean amount of rainfall reported for those months (NOAA 2024). Precipitation is determined to have a "normal" condition if it falls within the 30th to 70th percentile range; if the recorded data is higher or lower than the range, then it is determined to have a "wet" or "dry" condition, respectively. The 30th and 70th percentiles for April are 0.20 and 0.74 inch, May are 0.00 and 0.30 inch, and June and July are 0.00 and 0.00 inches. Based on site conditions and review of the AgACIS data provided in Table 2-3, it appears conditions at the time of the July 2024 delineation were wetter than normal because precipitation totals fell above the 30th and 70th percentiles. Conditions for the three months (April, May, June) leading up to the aquatic resources delineation were normal and wetter than normal, respectively, as precipitation totals were within the 30th and 70th percentiles for May and higher than the 70th percentile for June. Conditions for the two months leading up to the May 2023 aquatic resources delineation (March and April) were wetter than normal, normal, and normal, respectively. Based on site conditions and review of the AgACIS data provided in Table 2-3, it appears conditions at the time of the delineation were wetter than normal, and conditions for the three months leading up to the aquatic resources delineation (April, May, Junel) were normal overall.

Antecedent Precipitation Tool

The Antecedent Precipitation Tool (APT; Version 2.0), was also used to evaluate climatic conditions at the Survey Area at the time of the surveys. A single point was placed within the Survey Area, and the APT Watershed Sampling Summary (**Appendix A, Antecedent Precipitation Results**) presents precipitation and climatic data for the Survey Area for approximately 2 months prior to the survey. As displayed in **Table 2-4, Antecedent Precipitation Tool Results for Survey Area on July 30, 2024**, results indicate that the Survey Area exhibited "wetter than normal" conditions with a Product score of 15. Additionally, the drought index (PDSI) indicated "moderate wetness" on July 30, 2024.

[1] Sprecher, S. and A. Warne. 2000. Accessing and Using Meteorological Data to Evaluate Wetland Hydrology. Technical Report TR-WRAP-00-01. US Army Corps of Engineers, Engineer Research and Development Center, Operations Division Regulatory Branch, Vicksburg, Mississippi.

TABLE 2-3
WETS TABLE: MONTHLY TOTAL PRECIPITATION FOR BURBANK VALLEY PUMP PLANT, CA

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2016	4.15	0.78	2.15	0.28	0.09	0.00	0.00	0.00	0.00	0.24	1.1	3.91	12.70
2017	6.83	4.19	0.17	0.14	0.17	0.00	0.00	0.00	0.04	0.00	0.05	0.00	11.59
2018	3.00	0.30	3.82	0.00	0.01	0.00	0.00	0.00	0.00	0.32	1.43	2.83	11.71
2019	5.87	7.43	2.01	0.13	1.08	0.05	0.00	0.00	0.03	0	2.39	4.77	23.76
2020	0.17	0.02	4.71	4.08	0.37	0.00	0.00	0.00	0.00	0.00	0.04	1.26	10.65
2021	2.38	0.00	1.15	0.00	0.03	0.00	0.02	0.00	0.00.	1.05	0.00	8.68	13.31
2022	0.18	0.00	1.79	0.25	0.03	0.02	0.00	0.00	0.00	0.09	0.9	4.15	7.41
2023	9.28	9.38	5.65	0.26	1.11	0.02	0.00	4.25	0.05	0.00	0.09	2.9	32.99
2024	1.47	11.35	4.21	0.84	0.04	0.00	0.03	M0.00	-	-	-	-	17.94
Mean (1991-2020)	**3.65**	**4.47**	**2.79**	**0.87**	**0.40**	**0.10**	**0.04**	**0.01**	**0.13**	**0.69**	**0.85**	**2.50**	**16.50**

SOURCE: NOAA 2024

NOTE:

M = indicates missing data. T = indicates trace precipitation.

TABLE 2-4
ANTECEDENT PRECIPITATION TOOL RESULTS FOR SURVEY AREA ON JULY 30, 2024

Date	No. of Sampling Points	PDSI Class	Season	Antecedent Precipitation Score	Antecedent Precipitation Condition
July 30, 2024	1	Moderate Wetness	Dry Season	15	Wetter than Normal

SOURCE: Antecedent Precipitation Tool (v.2.0), generated on August 6, 2024

CHAPTER 3
Regulatory Framework

3.1 Waters of the United States

3.1.1 Clean Water Act

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1972.

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Activities in waters of the United States regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports) and mining projects. Section 404 requires a permit before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

Wetlands are defined by USACE as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” (33 CFR §328.3[c][1]; 40 CFR §120.2[c][1]). Indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by site investigation, must be present for a site to be classified as a wetland by USACE (Environmental Laboratory 1987).

Section 401 of the CWA gives the State authority to grant, deny, or waive certification of proposed federally licensed or permitted activities resulting in discharge to waters of the U.S. The State Water Resources Control Board (State Water Board) directly regulates multi-regional projects and supports the Section 401 certification and wetlands program statewide. The Regional Water Quality Control Board (RWQCB) regulates activities pursuant to Section 401(a)(1) of the federal CWA, which specifies that certification from the State is required for any applicant requesting a federal license or permit to conduct any activity including but not limited to the construction or operation of facilities that may result in any discharge into navigable waters. The certification shall originate from the State or appropriate interstate water pollution control agency in/where the discharge originates or will originate. Any such discharge will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the CWA.

3.1.2 Waters of the U.S.

Since its inception, the definition of the Waters of the U.S. has been a litigious issue. Most recently, the Supreme Court, ruling in *Sackett v. Environmental Protection Agency*, sharply limited the scope of the federal Clean Water Act's protection for the nation's waters. As a result of this decision, on August 29, 2023, the U.S. Environmental Protection Agency (EPA) and the USACE issued a final rule that amends the "Revised Definition of 'Waters of the United States'" to conform key aspects of the regulatory text to the U.S Supreme Court's decision.

Under the amended Revised Definition of "Waters of the United States," the term "waters of the United States" was defined as follows (33 CFR 328.3(a)):

(1) Waters which are:

  (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

  (ii) The territorial seas; or

  (iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section.

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:

  (i) Waters identified in paragraph (a)(1) of this section; or

  (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

In addition, the amended regulations include eight types of excluded waters (33 CFR 328.3(b)) which are not ''waters of the United States'' even where they otherwise meet the terms of paragraphs (a)(2) through (5) of this section:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;

(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior

converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

3.2 Waters of the State

3.2.1 Porter-Cologne Water Quality Control Act of 1969

Most projects involving water bodies or drainages are regulated by the RWQCB, the principal State agency overseeing water quality of the State at the regional and local levels. The Survey Area is located within the region of the Los Angeles RWQCB. RWQCBs are responsible for implementing Section 401 of the CWA as described above in Section 3.1.2, *Clean Water Act*.

In the absence of waters of the United States, waters may be regulated under the Porter-Cologne Water Quality Control Act if project activities, discharges, or proposed activities or discharges could affect California's surface, coastal, or ground waters. The permit submitted by the applicant and issued by the RWQCB is either a water quality certification (in the presence of waters of the United States) or a waste discharge requirement (in the absence of waters of the United States).

The *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Wetland Definition and Procedures), as prepared by the State Water Board, was adopted April 2, 2019, and revised April 6, 2021. The State Wetland Definition and Procedures include a definition for wetland waters of the State and exclusions for certain artificial wetlands.

The State Water Board defines an area as wetland as follows:

> "An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation."

The Water Code defines "waters of the State" broadly to include "any surface water or groundwater, including saline waters, within the boundaries of the State." "Waters of the State" includes all "waters of the United States." The following wetlands are waters of the State:

1. Natural wetlands.

2. Wetlands created by modification of a surface water of the State.

3. Artificial wetlands that meet any of the following criteria:

    a. Approved by an agency as compensatory mitigation for impacts to other waters of the State, except where the approving agency explicitly identifies the mitigation as being of limited duration.

    b. Specifically identified in a water quality control plan as a wetland or other water of the State.

    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape.

    d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the State unless they also satisfy the criteria set forth in 2, 3a, or 3b):

        i. Industrial or municipal wastewater treatment or disposal.

        ii. Settling of sediment.

        iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program.

        iv. Treatment of surface waters.

        v. Agricultural crop irrigation or stock watering.

        vi. Fire suppression.

        vii. Industrial processing or cooling.

        viii. Active surface mining—even if the site is managed for interim wetlands functions and values.

        ix. Log storage.

        x. Treatment, storage, or distribution of recycled water.

        xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits).

        xii. Fields flooded for rice growing.

3.3 Rivers, Streams, and Lakes

Pursuant to Division 2, Chapter 6, Section 1600 et seq. of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake which supports fish or wildlife. A notification of a lake or streambed alteration must be submitted to CDFW for "any activity that may substantially change the bed, channel, or bank of any river, stream, or lake." In addition, CDFW has authority under the Fish and Game Code over wetland and riparian habitats associated with lakes and streams. CDFW reviews proposed actions and, if necessary, submits to the applicant a proposal that includes measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the applicant is the Lake and Streambed Alteration Agreement.

Fish and Game Code Section 2785 defines riparian habitat as "lands which contain habitat which grows close to and depends upon soil moisture from a nearby freshwater source." Additionally, the CDFW Notification Instructions and Process guide characterizes the riparian zone as "the area that surrounds a channel or lake and supports (or can support) vegetation that is dependent on surface or subsurface flow." Furthermore, this CDFW guide calls for the analysis of impacts on the riparian zone up to the outer landward edge of the drip line of riparian vegetation.

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CHAPTER 4
Methodology

4.1 Pre-survey Review

Before completing the aquatic resources delineation, ESA conducted a review of available background information pertaining to the Survey Area. The following resources were reviewed:

- United States Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2024).
- USGS 7.5' topographic quadrangle map: Burbank (USGS 2024).
- Current aerial imagery (Google Earth).
- Precipitation data from the Applied Climate Information System (NOAA 2024).
- National Wetlands Inventory (NWI) (USFWS 2024).
- National Hydrography Dataset (NHD) (USGS 2024).
- USGS StreamStats application (USGS 2024).

The results of the NWI and NHD database queries are provided in Figures 2-3 and 2-4.

4.2 Survey Methods

A delineation of aquatic resources within the Survey Area was conducted on July 30, 2024, by ESA Biologists Sonya Vargas and Amanda French. Survey data were collected using an Eos Arrow 100® Global Navigation Satellite System receiver, which provides Satellite-based Augmentation System corrections processing during the survey and can provide 60 cm real-time horizontal accuracy.

The delineation was conducted by walking throughout the Survey Area to selected areas where potential jurisdictional features were identified during the literature review. Features that were identified as potentially jurisdictional included, but were not limited to, drainages that had an OHWM and defined channels with bed and bank, as well as potential wetlands evidenced by visible hydrologic indicators and/or hydrophytic vegetation. Additional data, such as landforms, vegetation, hydrology, and soils, were noted where these characteristics were pertinent to identification of features.

Potential jurisdictional features were identified and delineated following current federal and State methodology and guidelines, including waters of the United States, waters of the State, and California Fish and Game Code Section 1600 resources. Survey data forms are included in **Appendix B, Data Sheets**.

4.2.1 Waters of the United States

Wetlands

The delineation used the "Routine Determination Method" as described in the *1987 Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987); hereafter called the "1987 Manual." The 1987 Manual was used in conjunction with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008a), hereafter called the "Arid West Supplement." For areas where the 1987 Manual and the Arid West Supplement differ, the Arid West Supplement was followed. Wetlands and waters were classified using commonly accepted habitat types; however, the Cowardin classification (Cowardin et al. 1979) of each feature type is noted in the discussion in Chapter 5.

To determine the extent of potential jurisdictional wetlands on a project site, the 1987 Manual and Arid West Supplement were used as a guide for identifying wetland characteristics. Three positive wetland parameters must normally be present for an area to be considered a wetland: (1) a dominance of wetland vegetation, (2) presence of hydric soils, and (3) presence of wetland hydrology. Presence or absence of positive indicators for wetland vegetation, soils, and hydrology was assessed per the 1987 Manual and Arid West Supplement guidelines. Data points were taken within suspected wetlands and a paired point was taken (where applicable) in nearby upland areas. Data points were recorded on Arid West Region wetland determination data forms, which are provided in Appendix B.

At each data point, a visual assessment of the dominant plant species within the vegetation community was made. Dominant species were assessed using the recommended "50/20" rule per the Arid West Supplement. Plants were identified to species using the *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012). The *Arid West 2020 Regional Wetland Plant List* (USACE 2020) was used to determine the wetland indicator status of all plants.

Hydric soils were identified using soil indicators presented in the Arid West Supplement and the *Field Indicators of Hydric Soils in the United States*, Version 8.2 (NRCS 2018). Soils at each data point were characterized by color, texture, organic matter accumulation, and the presence or absence of hydric soil indicators. The coloration of the soil samples, matrix, and mottles is assessed using the *Munsell Soil Color Book* (Munsell 2000).

The presence of wetland hydrology was determined at each data point by the presence of one or more of the primary and/or secondary indicators, per the guidance of the Arid West Supplement.

Non-wetland (Other) Waters of the United States

Non-wetland waters of the United States extend to the OHWM, defined in 33 CFR 328.3 as the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, or the presence of litter and debris. In the Arid West region of the United States, waters are variable and include ephemeral, intermittent, and perennial channel forms. The most problematic ordinary high-water delineations are associated with the commonly occurring ephemeral and intermittent channel forms that dominate the Arid West landscape.

Delineation methods were completed in accordance with *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (USACE 2008b) and *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Curtis and Lichvar 2010). OHWM data sheets are provided in Appendix B.

Methodology for Applying the Relatively Permanent Standard

The Relatively Permanent Standard (RPS) was applied to determine whether an aquatic resource qualifies as a water of the United States as any of the following:

- **(a)(3) Tributaries** of (a)(1) or (2) waters.
- **(a)(4) Wetlands** adjacent to an RPW (Relatively permanent, standing or continuously flowing bodies of water identified as an as [a][2] or [a][3] water and with a continuous surface connection to those waters).
- **(a)(5) Intrastate lakes and ponds** not identified in paragraphs (a)(1) through (a)(4).

An evaluation of the applicability of the RPS was conducted for:

Potential wetlands: Under the RPS for (a)(4) adjacent wetlands, such wetlands must be adjacent to an RPW identified as an (a)(2) or (a)(3) water and must meet the continuous surface connection requirement (CSC). A wetland ecologist also evaluated whether a CSC was present, based on whether:

- The wetland(s) physically abut, or touch, either an [a][1] water, a relatively permanent impoundment of waters ([a][2] water) or a jurisdictional tributary ([a][3] water) that also meets the RPS, OR
- The wetland(s) connects to an impoundment or tributary ([a][2] or [a][3] waters) by a discrete feature like a non-jurisdictional ditch, swale, pipe, or culvert.

Potentially perennial or intermittent streams: Under the RPS for (a)(3) tributaries or (a)(5) lakes and ponds, such aquatic resources must exhibit sufficient flow during certain times of the year. The phrase "certain times of the year" includes extended periods of standing or continuously flowing water occurring in the same geographic feature year after year, except in times of drought. To determine whether the RPS applies, the flow characteristics of each stream were evaluated along the entire reach of the same Strahler stream order (Strahler 1957) (i.e., from the point of confluence, where two lower order streams meet to form the tributary, downstream to the point such tributary enters a higher order stream).

4.2.2 Waters of the State

Waters of the State within CWA Section 401 jurisdiction and subject to the State Wetland Definition and Procedures (State Water Board 2021) were delineated up to the OHWM in correspondence with the other waters of the U.S. delineation.

4.2.3 Rivers, Streams, and Lakes

California Fish and Game Code Section 1600 resources were delineated to include bed, bank, and channel up to the top of bank (TOB), and/or associated wetlands and riparian vegetation to the outer drip line, whichever is wider.

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CHAPTER 5
Results

5.1 Aquatic Resources

All aquatic features within the Survey Area were analyzed in the field to determine whether each may be considered jurisdictional. A total of one perennial drainage, the Los Angeles River, and two wetlands were identified within the Survey Area which are described below. OHWM and wetland determination results are provided in Appendix B, representative photographs are provided in **Appendix C, Representative Photographs**, and a list of plant species detected is provided in **Appendix D, Floral Compendium** along with the respective wetland indicator status.

5.2 Waters of the United States

As defined under Section 3.1, under the Revised Definition of Waters of the U.S, there are five categories that are considered jurisdictional waters of the U.S. These categories include (a)(1) territorial seas and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide, and interstate waters, including interstate wetlands; (a)(2) impoundments of waters of the U.S; (a)(3) tributaries of waters of the U.S that meet the RPS; (a)(4) wetlands adjacent to certain waters that meet the RPS; and (a)(5) intrastate lakes and ponds that meet the RPS. See **Table 5-1**, below, for an evaluation of the aquatic resources in the Survey Area that meet the Revised Definition of Waters of the U.S. Potential waters of the U.S. are depicted in **Figure 5-1, Potential Waters of the U.S. and State**.

5.2.1 Potential Wetland Waters of the United States

Freshwater Wetlands

Two freshwater wetlands(Wetland 1 and Wetland 2) were mapped within the Los Angeles River comprising a total of 0.11-acre. A total of one data point (SP-1) was collected due to the presence of surface water and hydrophytic vegetation. SP-1 was collected just outside of the Survey Area in a location where soils could be accessed since the drainage contains deep water and is concrete-lined. The data point was used to determine whether features met criteria for wetland in accordance with the 1987 Manual and Arid West Supplement. Although SP-1 was not collected within the Survey Area, results from the data point assisted in mapping Wetland 1 and Wetland 2 using extrapolation, based on the presence of hydrophytic vegetation and hydrologic indicators. Vegetation within SP-1 was dominated by southern cattail (*Typha domingensis*, obligate wetland plant species) and Goodding's willow (*Salix gooddingii*, facultative wetland plant species) and met the dominance test for hydrophytic vegetation. The soil matrix emitted a strong "rotten egg" smell; therefore, the Hydrogen Sulfide (A4) hydric soil indicator was met. Additionally, the soil matrix was "mucky"; therefore, the Loamy Mucky Mineral (F1) hydric soil indicator was met. Three primary hydrology indicators—Surface Water (A1), Surface Soil Cracks (B6),

and Inundation Visible on Aerial Imagery (B7)—were met. No upland data point was collected outside of the wetland patches to identify the wetland-upland transitional boundary as the surrounding area is concrete-lined.

TABLE 5-1
POTENTIAL WATERS OF THE U.S. (WOTUS)

Aquatic Feature	Cowardin Type	Dominant Veg./ Land Cover Type	OHWM (feet) (range from within Survey Area)	Linear Feet	Acres	Applicable Waters of the United States Definition*
Wetlands						
Wetland 1	Riverine	Goodding's Willow – Red Willow Riparian Woodland and Forest	-	-	0.09	(a)(4)
Wetland 2	Riverine	Cattail Marshes	-	-	0.02	(a)(4)
Other Waters						
D1 – Los Angeles River	Riverine	Open Water	149.42 (115.79 – 206.64)	4,532	7.57	(a)(1)

NOTES:

* Acreages may not sum due to rounding.
* See Section 3.1.2 for complete definition of jurisdictional waters. Broadly:

(a)(1) waters include areas subject to ebb and flow of the tide, and territorial seas;

(a)(4) waters include wetlands adjacent to waters that meet required criteria;

Wetland 1 and Wetland 2 are located within an (a)(1) water and meet the CSC requirement because they physically occur within the boundaries of the jurisdictional (a)(1) water. Therefore, Wetland 1 and Wetland 2 are considered to be a potential adjacent wetlands under paragraph (a)(4).

5.2.2 Potential Other Waters of the United States

Perennial River

Drainage 1 (the Los Angeles River) was delineated based on the identification of OHWM indicators, which included, but were not limited to, a break in slope, bedforms and other bedload transport evidence, change in vegetation type, wracking, and water staining. The drainage supported riparian vegetation (obligate and facultative wetland plant species) within the channel. The approximate average width of the OHWM was 149.42 linear feet within the Survey Area, ranging from 115.79 to 206.64 linear feet. Flowing water was observed within the river during the delineation visit.

The Los Angeles River is designated as a Navigable Water (USEPA 2010). Therefore, Drainage 1 is considered to be an (a)(1) waters of the U.S.

5.3 Waters of the State

Potential waters of the State mapped within the Survey Area are presented in Table 5-1, above, and depicted in Figure 5-1. Wetland 1, Wetland 2, and Drainage 1 were delineated as described for waters of the U.S. and are potential wetland and other waters of the State.

SOURCE: ESA, 2024

Los Angeles River Phase IV Bike Path Project

Figure 5-1
Potential Waters of the U.S. and State

ESA

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5.4 Rivers, Streams, and Lakes

Rivers, streams, and lakes potentially subject to FGC Section 1600 mapped within the Survey Area are presented in **Table 5-2, Features Potentially Subject to Section 1600 et seq. of the Fish and Game Code,** and depicted in **Figure 5-2, Features Potentially Subject to Fish and Game Code Section 1600 et seq**. Drainage 1 and Wetland 1 were delineated based on TOB indicators (i.e., break in slope). Potential FGC Section 1600 resources are located immediately adjacent to the north of the project site but do not overlap the project site.

TABLE 5-2
FEATURES POTENTIALLY SUBJECT TO SECTION 1600 ET SEQ. OF THE FISH AND GAME CODE

Aquatic Feature	Cowardin Type	Vegetated Stream/Pond/Lake (acres)	Unvegetated Stream/Pond/Lake (acres)	Length (feet)	Vegetation/ Land Cover Type
Drainage 1 (Los Angeles River), Wetland 1, and Wetland 2[1]	Riverine	0.11	9.38	4,532	Open Water/Cattail Marshes

5.5 Conclusions

A total of 0.11 acre of potential wetland and 7.57 acres (4,532 linear feet) of potential other waters of the U.S. and State occur within the Survey Area. A total of 9.49 acres of aquatic resources potentially jurisdictional under Section 1600 et seq. of the FGC occur within the Survey Area. This report documents the aquatic resources boundary delineation and best professional judgment of ESA investigators. All conclusions presented should be considered preliminary and subject to change pending official review and verification by the appropriate regulatory agencies.

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SOURCE: ESA, 2024

Los Angeles River Phase IV Bike Path Project

Figure 5-2
Features Potentially Subject to Fish and Game Code Section 1600

ESA

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CHAPTER 6
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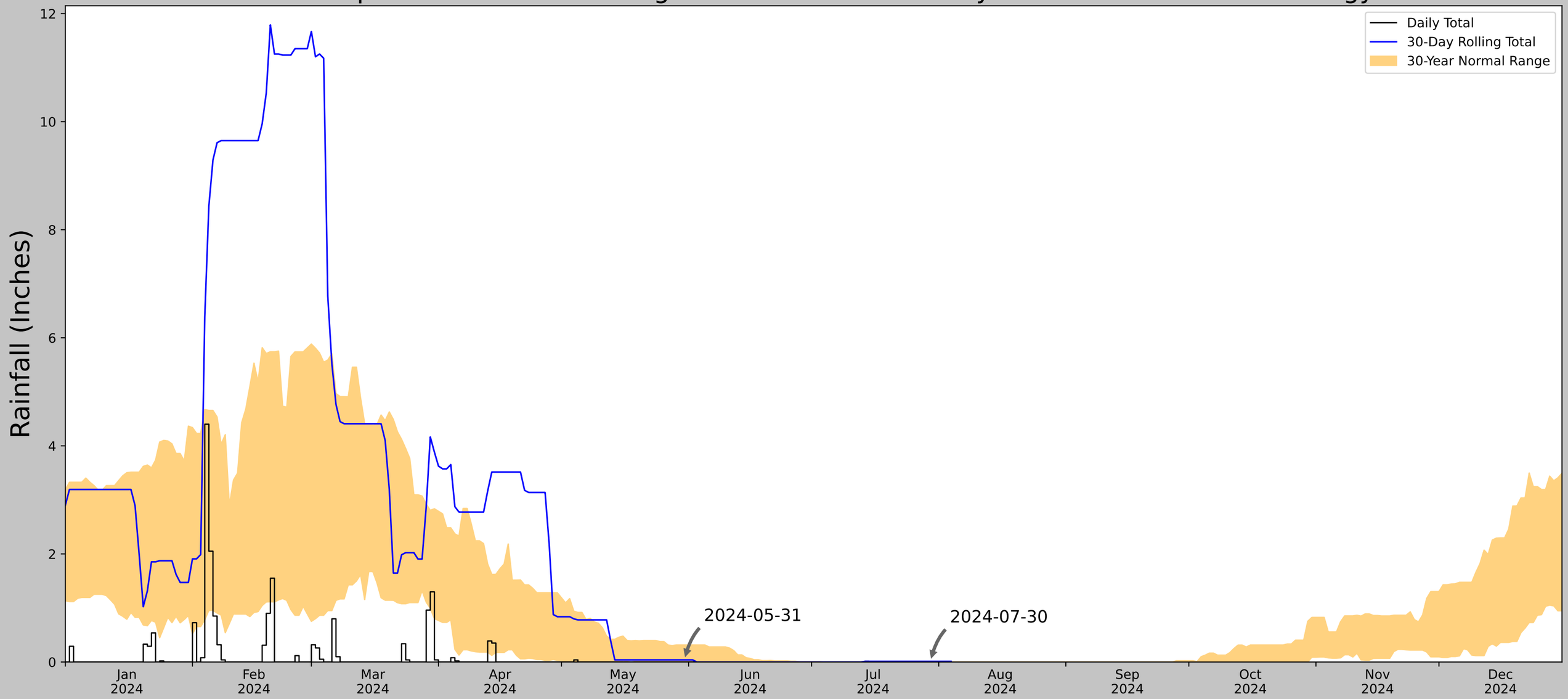
Appendix A
Antecedent Precipitation Results

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	34.156518, -118.297108
Observation Date	2024-07-30
Elevation (ft)	454.058
Drought Index (PDSI)	Moderate wetness (2024-06)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-07-30	0.0	0.0	0.011811	Wet	3	3	9
2024-06-30	0.0	0.005906	0.0	Normal	2	2	4
2024-05-31	0.011811	0.314961	0.03937	Normal	2	1	2
Result							Wetter than Normal - 15

US Army Corps of Engineers

ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
BURBANK VALLEY PUMP PLT	34.1867, -118.3481	654.856	3.584	200.798	2.333	11167	84
BURBANK GLENDALE PASADENA AP	34.1997, -118.3656	730.971	1.344	76.115	0.707	152	6
VAN NUYS FC15A	34.1833, -118.45	694.882	5.829	40.026	2.856	33	0

Appendix B
Data Sheets

Print Form | Save As | E-mail

U.S. Army Corps of Engineers (USACE)

RAPID ORDINARY HIGH WATER MARK (OHWM) FIELD IDENTIFICATION DATA SHEET

The proponent agency is Headquarters USACE CECW-CO-R

Form Approved - OMB No. 0710-0025 Expires: 01-31-2025

AGENCY DISCLOSURE NOTICE

The public reporting burden for this collection of information, 0710-OHWM, is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collection@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

Project ID #: D2021D0667 | Site Name: LA RIVER PIPE N BIKE PATH | Date and Time: 7/30/24 10 AM

Location (lat/long): 34.154534, -118.296983 | Investigator(s): A. FRENCH, S. VARGAS

Step 1 Site overview from remote and online resources

Check boxes for online resources used to evaluate site:

- [X] gage data
- [X] climatic data
- [X] aerial photos
- [ ] LIDAR
- [X] satellite imagery
- [X] topographic maps
- [ ] geologic maps
- [X] land use maps
- [ ] Other:

Describe land use and flow conditions from online resources. Were there any recent extreme events (floods or drought)?

OBSERVED FLOW HAS BEEN ABOUT 1.4 FT - NO FLOODING OR DROUGHT EVENTS. LAND USE SURROUNDING THE SITE INCLUDES OPEN SPACE AND URBAN RESIDENTIAL DEVELOPMENT.

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

THE AA CONTAINS A CONCRETE LINED CHANNEL WITH RIPRAP. SEDIMENT HAS ACCUMULATED WITHIN THE RIPRAP + VEGETATION IS GROWING. THE RIVERSIDE DRIVE BRIDGE IS LOCATED JUST DOWNSTREAM AND CURBANK CHANNEL JOINS THE LA RIVER JUST UPSTREAM.

Step 3 Check the boxes next to the indicators used to identify the location of the OHWM.

OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below 'b', at 'x', or just above 'a' the OHWM.

Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log

Geomorphic Indicators

- [X] Break in slope:
  - [ ] on the bank
  - [ ] undercut bank
  - [ ] valley bottom
  - [X] Other: CONCRETE-LINED
- [ ] Shelving:
  - [ ] shelf at top of bank
  - [ ] natural levee
  - [ ] man-made berms or levees
  - [ ] other berms
- [ ] Channel bar:
  - [ ] shelving (berms) on bar
  - [ ] unvegetated
  - [ ] vegetation transition (go to veg. indicators)
  - [ ] sediment transition (go to sed. indicators)
  - [ ] upper limit of deposition on bar
- [X] Instream bedforms and other bedload transport evidence:
  - [X] deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.) b
  - [X] bedforms (e.g., pools, riffles, steps, etc.) b
- [ ] erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)
- [ ] Secondary channels:

Sediment Indicators

- [ ] Soil development
- [ ] Changes in character of soil:
- [ ] Mudcracks:
- [ ] Changes in particle-size distribution:
  - [ ] transition from _____ to _____
  - [ ] upper limit of sand-sized particles
  - [ ] silt deposits
- [ ] Exposed roots below intact soil layer:

Vegetation Indicators

- [X] Change in vegetation type and/or density:

  Check the appropriate boxes and select the general vegetation change (e.g., graminoids to woody shrubs). Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain.

  - [ ] vegetation absent to:
  - [ ] moss to:
  - [X] forbs to: absent
  - [X] graminoids to: absent
  - [X] woody shrubs to: absent
  - [X] deciduous trees to: absent
  - [ ] coniferous trees to:
- [ ] Vegetation matted down and/or bent:

Ancillary Indicators

- [X] Wracking/presence of organic litter: b
- [ ] Presence of large wood:
- [ ] Leaf litter disturbed or washed away:
- [X] Water staining: a X
- [ ] Weathered clasts or bedrock:

Other observed indicators? Describe: WETLAND VEGETATION PRESENT BELOW OHWM

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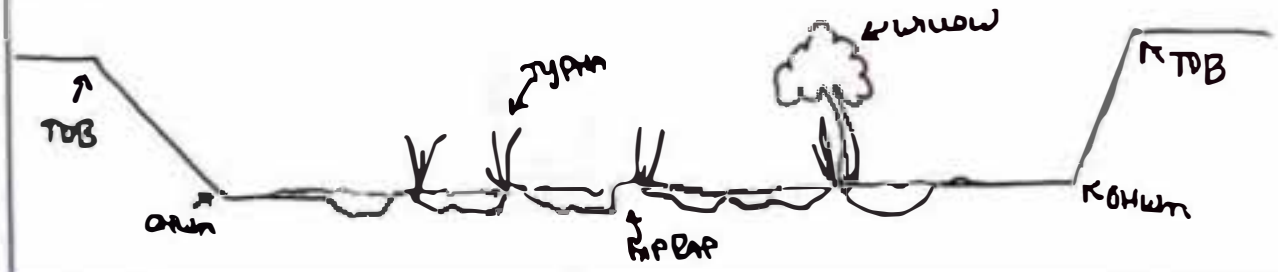
Step 4 Is additional information needed to support this determination? [ ] Yes [X] No If yes, describe and attach information to datasheet

Step 5 Describe rationale for location of OHWM

WATER STAINING ALONG CONCRETE-LINED SIDE SLOPES.

Additional observations or notes



Attach a photo log of the site Use the table below, or attach separately

Photo log attached? [X] Yes [ ] No If no, explain why not

List photographs and include descriptions in the table below

Number photographs in the order that they are taken. Attach photographs and include annotations of features

Photo Number	Photograph description

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: LA River Bike Path City/County: Los Angeles Sampling Date: 7/30/24
Applicant/Owner: City of Los Angeles State: CA Sampling Point: SP-1
Investigator(s): A. French, S. Vargas Section, Township, Range: 10, 1N, 14W
Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): C Lat: 34.156548 Long: -118.297188 Datum: WGS 84
Soil Map Unit Name: Xerorthents, frequently flooded, 0-2% slopes NWI classification: Riverine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes X No ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____
Is the Sampled Area within a Wetland? Yes X No ____

Remarks: Wetter than normal climatic conditions. Wetland is located within the LA River. This portion of the river is concrete lined with a rip rap bottom. Sediment has built up within the rip rap & wetland conditions have formed.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
Total Cover			
Sapling/Shrub Stratum			
1 Fraxinus uhdei	3	Y	-
2 Salix gooddingii	3	Y	FACW
3			
4			
5			
Total Cover	6		
Herb Stratum			
1 Typha domingensis	15	Y	OBL
2 Schoenoplectus acutus	5	N	OBL
3 Ludwigia peploides	3	N	OBL
4 Polypogon monspeliensis	1	N	FACW
5 Digitaria sanguinalis	1	N	FACU
6 Cyperus eragrostis	1	N	FACW
7 Melilotus albus	1	N	-
8 Lactuca serriola	1	N	FACU
Total Cover	28		
Woody Vine Stratum			
1			
2			
Total Cover			

% Bare Ground in Herb Stratum: 72 % Cover of Biotic Crust: ____

Dominance Test worksheet
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present

Hydrophytic Vegetation Present? Yes X No ____

Remarks: Wetland vegetation is growing from sediment deposition on top of rip rap

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2.5/1	100					SILO	mucky

[1]Type: C=Concentration D=Depletion RM=Reduced Matrix [2]Location: PL=Pore Lining RC=Root Channel M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: CONCRETE

Depth (inches): 6

Hydric Soil Present? Yes _____ No _____

Remarks: MUCKY SOILS W/ LOTS OF ORGANIC MATERIAL, FEELS SLICK WHEN RUBBED

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- __ Water Marks (B1) (Riverine)
- __ Sediment Deposits (B2) (Riverine)
- __ Drift Deposits (B3) (Riverine)
- __ Drainage Patterns (B10)
- __ Dry-Season Water Table (C2)
- __ Thin Muck Surface (C7)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Shallow Aquitard (D3)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): SURFACE

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

STREAM GAUGE DATA AVAILABLE

Remarks:

NO WATER TABLE DUE TO CONCRETE BOTTOM

Appendix C
Representative Photographs

Photograph 1 (N). Photo Point 1, looking across Drainage 1 at open water and Goodding's willow – red willow riparian woodland and forest and cattail marshes habitat.

Photograph 2 (W). Photo Point 1, looking upstream at open water and Goodding's willow – red willow riparian woodland and forest and cattail marshes habitat.

Photograph 3 (E). Photo Point 1, looking downstream at open water and Goodding's willow – red willow riparian woodland and forest and cattail marshes habitat.

Photograph 4 (N). OHWM Transect 1, facing north across Drainage 1.

Photograph 5 (E). OHWM Transect 1, facing downstream within Drainage 1.

Photograph 6 (S). OHWM Transect 1, facing across Drainage 1.

Photograph 7 (W). OHWM Transect 1, facing upstream within Drainage 1.

Photograph 8 (W). View of bike path (left), concrete lined bank, open water within channel, cattail marsh habitat (middle), and Goodding's willow-red willow riparian woodland and forest habitat (background) intermixed with cobble.

Photograph 9 (Down). Sample Point 1, looking down at sample point location.

Photograph 10 (W). Sample Point 1, looking at sample point location surrounded by open water and cattail marsh habitat.

Photograph 11 (E). Sample Point 1, looking at surrounding cattail marsh habitat.

Photograph 12. Sample Point 1, looking at soil profile.

Appendix D
Floral Compendium

APPENDIX D
Floral Compendia

Family	Scientific Name	Common Name	Nativity	Wetland Indicator Status
ANGIOSPERMS				
DICOTS				
Apiaceae – Celery, Carrot, Parsley Family				
	Cyclospermum leptophyllum	marsh parsley	Non-native	FACU
Asteraceae – Sunflower Family				
	Lactuca serriola	prickly lettuce	Non-native	FACU
Oleaceae – Olive Family				
	Fraxinus uhdei	shamel ash	Non-native	-
Onagraceae – Evening Primprose Family				
	Ludwigia peploides	Marsh purslane	Cal-IPC High	-
Salicaceae – Willow Family				
	Salix gooddingii	Goodding's willow	native	FACW
MONOCOTS				
Poaceae – Grass Family				
	Digitaria sanguinalis	hairy crabgrass	Non-native	FACU
	Polypogon monspeliensis	Annual beard grass	Cal-IPC Limited	FACW
Schoenoplectus – Sedge Family				
	Schoenoplectus acutus	hardstem bulrush	Native	OBL
Typhaceae – Cattail Family				
	Typha domingensis	southern cattail	Native	OBL

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