EVERGREEN COMMERCIAL DEVELOPMENT PROJECT

Aquatic Resources Delineation Report

Prepared for
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August 2022

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EXECUTIVE SUMMARY

At the request of Evergreen Devco, Inc. (Evergreen), Environmental Science Associates (ESA) conducted a site investigation for the Evergreen Commercial Development Project (project) at the property located at the southeast corner of Central Avenue and Cambern Avenue (project site), in Lake Elsinore, California. The purpose of the site investigation was to identify and delineate a potential water of the U.S and State (Drainage 1) on the project site in accordance with *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b) to support any necessary permits from the regulatory agencies.

Based on the results of the aquatic resources delineation and the jurisdictional analysis, Drainage 1, an ephemeral stream, 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 Santa Ana Regional Water Quality Control Board (RWQCB) may also assert jurisdiction over Drainage 1 as a water of the State pursuant to Section 401 of the federal CWA, the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (State Wetlands Procedures), and the Porter Cologne Water Quality Control Act. Additionally, Drainage 1 along with associated vegetation may be subject to regulation by California Department of Fish and Wildlife (CDFW) under Fish and Game Code (FGC) Section 1600 et seq. Finally, Drainage 1 may also be subject to regulation under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools.

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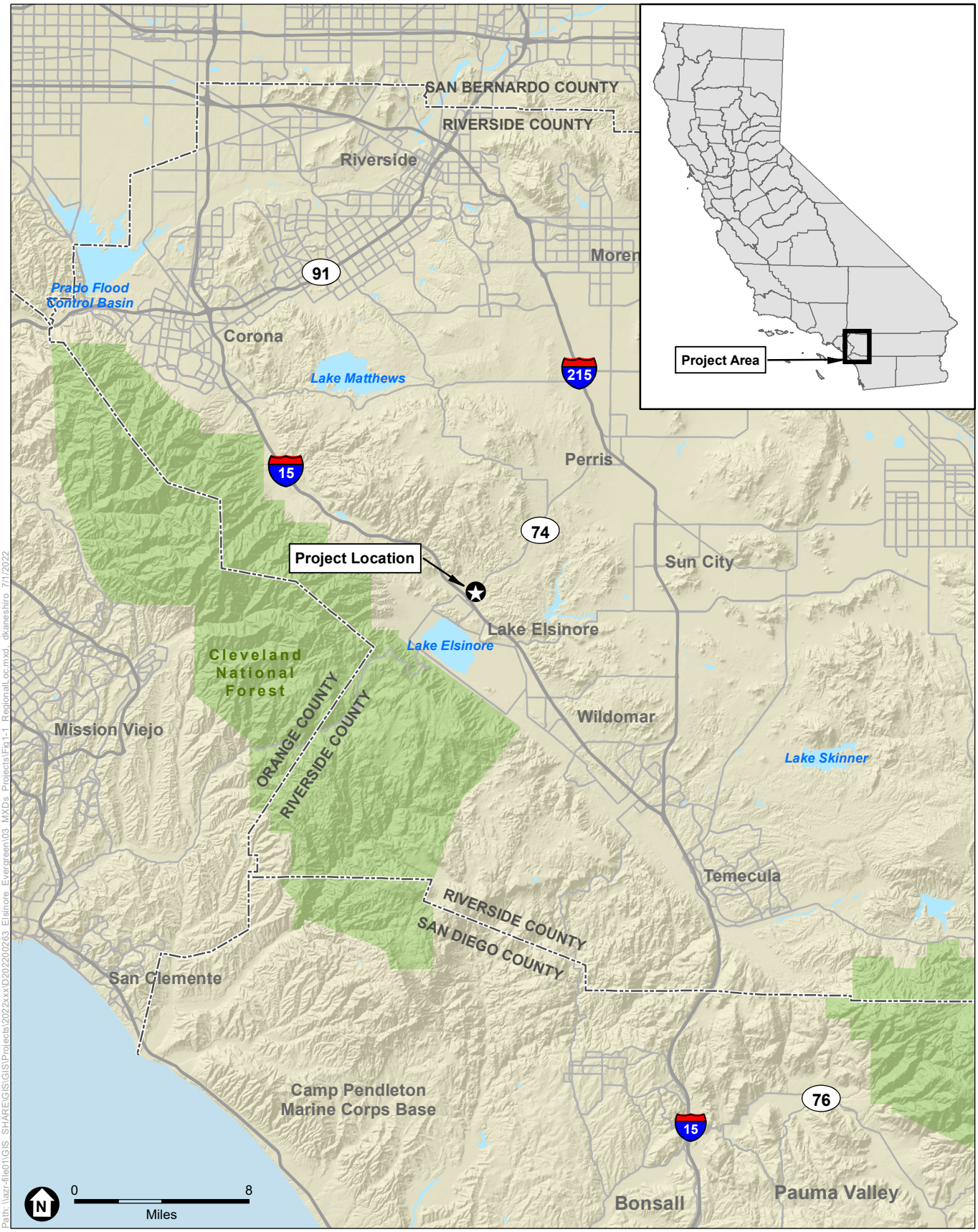
CHAPTER 1
Introduction

At the request of Evergreen Devco, Inc. (Evergreen), Environmental Science Associates (ESA) conducted a site investigation for the Evergreen Commercial Development Project (project) at the property located at the southeast corner of Central Avenue and Cambern Avenue (project site), in Lake Elsinore, California (**Figure 1-1, Regional Location**). The proposed project would involve the development of multiple commercial buildings and associated parking. Staging for the project would remain entirely within the project site. Project activities would occur in two phases, would involve approximately 4 months of grading and site preparation, and would last between 1.5 and 2 years to complete construction of the buildings and parking lots. Phase 1 of the project would take place in the northern half of the project site, which is disturbed and supports limited biological resources. Phase 2 would occur in the southern half of the project site, which supports aquatic resources.

The site investigation conducted by ESA was to identify and delineate a potential water of the U.S and State (Drainage 1) 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); Santa Ana Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the federal CWA, the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (State Wetlands Procedures), and the Porter Cologne Water Quality Control Act; California Department of Fish and Wildlife (CDFW) pursuant to Sections 1600 et seq. of the California Fish and Game Code (FGC); and/or features subject to the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) pursuant to Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools (Dudek 2003).

The delineation was conducted in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008a). Delineation of potential non-wetland waters of the U.S., as determined by the presence of an ordinary high water mark (OHWM), was based on the guidance in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b). The results from this report will be used to support any necessary permits from the regulatory agencies.



SOURCE: ESRI

Evergreen Commercial Development Project

Figure 1-1
Regional Location

ESA

1.1 Survey Location

The project site is located at the southeast corner of Central Avenue (California State Route 74) and Cambern Avenue in the City of Lake Elsinore, Riverside County, California. The project site encompasses five parcels: Assessor's Parcel Numbers (APNs) 377-020-014, 377-020-016, 377-020-017, 377-020-018, and 377-020-019, totaling 8.87 acres (**Figure 1-2, Project Location**). The project site is within Section 31, Township 5 South and Range 4 West, in the Lake Elsinore, California, 7.5-minute U.S. Geological Survey (USGS) quadrangle (**Figure 1-3, USGS Topographic Map**).

1.1.1 Directions to the Survey Area

From the USACE Riverside Field Office location at 1451 Research Park Drive, head north on Research Park Drive toward Columbia Avenue and turn left. Continue for 0.9 mile and turn left on Iowa Avenue. Continue for 1.3 miles before turning right onto Blaine Street and follow the signs for the entrance to CA-60 E/I-215 S toward San Diego/Indio. Continue on CA-60 E/I-215 S for 3.8 miles and then use the right 2 lanes to take I-215 S toward San Diego for 11 miles. Take exit 18 for D Street and then turn right onto W San Jacinto Avenue and then quickly left onto S C Street. Continue on S C Street for 0.3 mile before turning right onto CA-74 W/W 4th Street for 9 miles. Turn left onto Cambern Avenue and survey area is located on the left.

1.2 Contact Information

1.2.1 Applicant and Property Owner

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1.2.2 Delineators

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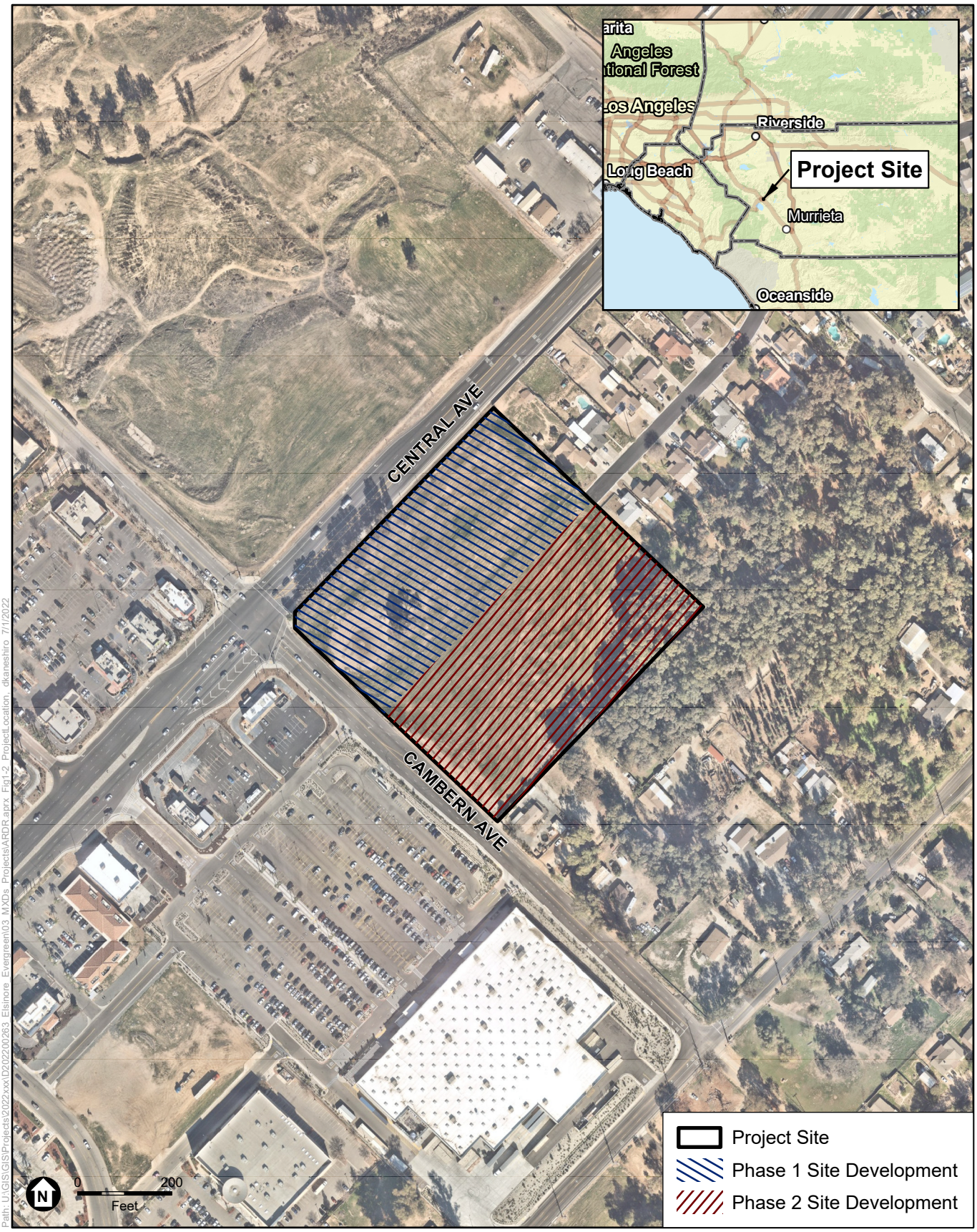

SOURCE: Nearmap, 2022; ESA, 2022

Evergreen Commercial Development Project

Figure 1-2
Project Location

ESA

Path: U:\GIS\GIS\Projects\2022xxx\D2022000263 Elsinore Evergreen\03 MXDs Projects\ARDR.aprx Fig1-3 Topo. dkaneshiro 7/1/2022

SOURCE: USGS 7.5" Topoquad
Lake Elsinore; ESA, 2022

Evergreen Commercial Development Project

Figure 1-3
USGS Topographic Map

ESA

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CHAPTER 2
Existing Conditions

2.1 Aquatic Resources Delineation Survey Area

The 8.87-acre aquatic resources delineation survey area (survey area) encompasses the project site, which includes five parcels: APNs 377-020-014, 377-020-016, 377-020-017, 377-020-018, and 377-020-019.

2.2 Vegetation Communities and Land Cover Types

The natural communities and land cover types are depicted in **Figure 2-1, Natural Communities and Land Cover Types**, and a summary of acreages within the survey area are presented below in **Table 2-1, Natural Communities and Land Cover Types**.

TABLE 2-1
NATURAL COMMUNITIES AND LAND COVER TYPES

Natural Communities and Land Cover Types	Project Site (acres)
Non-Native Grasses and Forbs	0.11
River Red Gum Groves	1.00
Scalebroom Scrub	0.09
Disturbed/Developed	7.68
Total*	**8.87**

* Total may differ from sum of individual numbers due to rounding.

2.2.1 Non-Native Grasses and Forbs

Non-native grasses occur in the eastern central portion of the project site, along the western bank of the non-vegetated portion of Drainage 1. Vegetation in this community consists of a mixture of non-native grasses and forbs such as slender oat (*Avena barbata*), red brome (*Bromus rubens*), white stemmed filaree (*Erodium brachycarpum*), coastal heron's bill (*E. cicutarium*), and foxtail barley (*Hordeum murinum*). The non-native golden crownbeard (*Verbesina encelioides*) is the only subshrub in this community.

SOURCE: Nearmap, 2022; ESA, 2022

Evergreen Commercial Development Project

Figure 2-1
Natural Communities and Land Cover Types

ESA

2.2.2 River Red Gum Groves

River red gum groves occur along the southeast (along Drainage 1) and as a landscape row in the northwest project site boundaries, with one isolated cluster in the western portion of the project site. Vegetation in this community consists of a tree canopy dominated by river red gum (*Eucalyptus camaldulensis*) with an understory comprising various grasses and forbs, such as common bedstraw (*Galium aparine*), common chickweed (*Stellaria media*), coastal heron's bill, field bindweed (*Convolvulus arvensis*), blue dicks (*Dichelostemma capitatum*), fringed twinevine (*Funastrum cynanchoides*), and slender oat.

2.2.3 Scale Broom Scrub (Lepidospartum squamatum Alliance)

Scale broom scrub occurs within the eastern portion of the project site, along the western bank of Drainage 1. This community is characterized by a dense shrub layer, dominated by scale broom (*Lepidospartum squamatum*) and interspersed with various other shrub species, such as California sagebrush (*Artemisia* californica) and mulefat (*Baccharis salicifolia*). The density of the shrub growth appears to have precluded the development of a mature understory; however, herbaceous species observed along the margins of the community include fiddleneck (*Amsinckia menziesii*) and longstem buckwheat (*Eriogonum elongatum*).

2.2.4 Disturbed/Developed

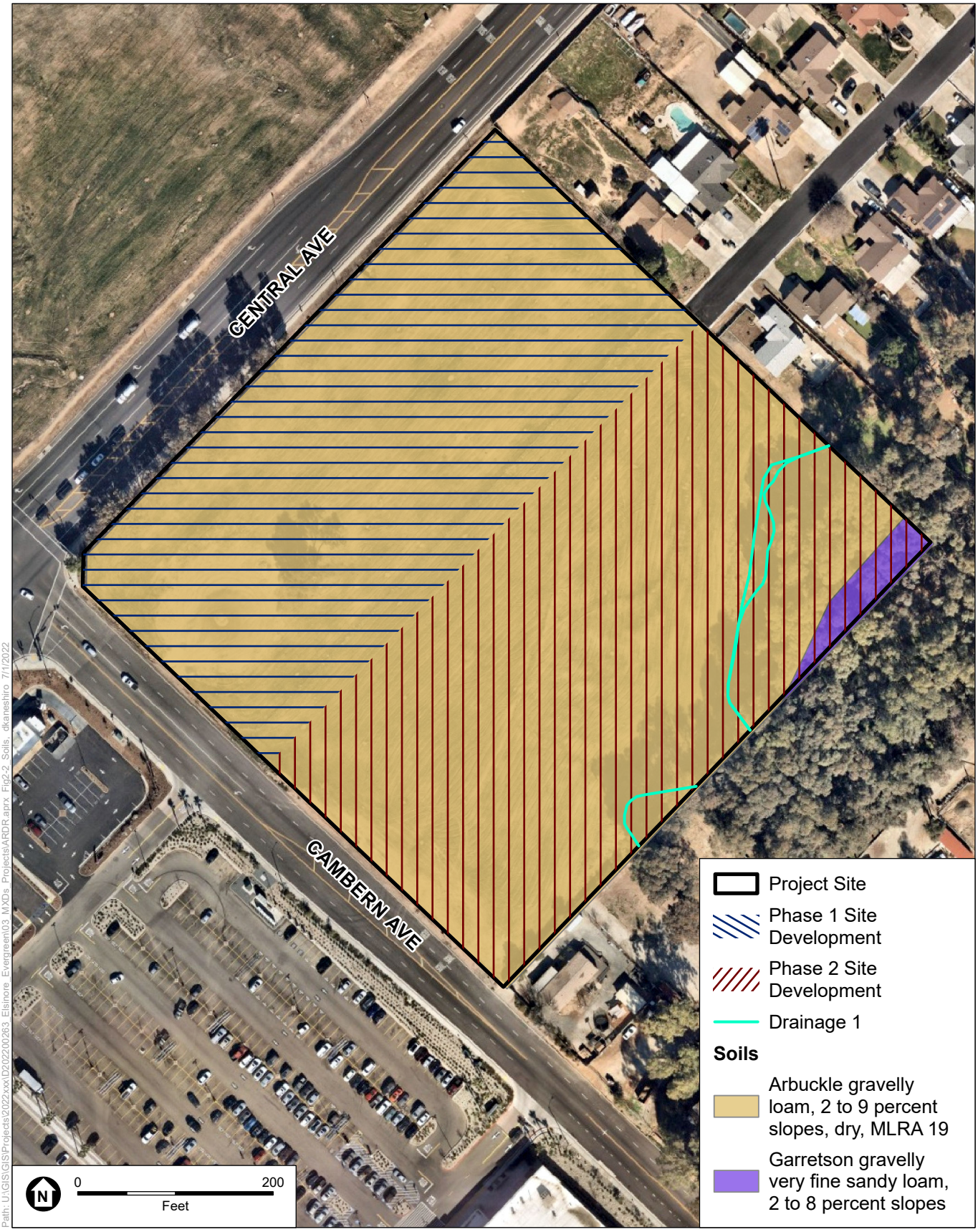
Disturbed conditions occur throughout much of the project site, west of Drainage 1. Based on review of aerial imagery and existing conditions, it appears that this area is routinely disked or otherwise disturbed for brush clearance purposes. Vegetation in this area consists primarily of herbaceous species such as fiddleneck, shortpod mustard (*Hirschfeldia incana*), pineapple weed (*Matricaria discoidea*), slender keel fruit (*Tropidocarpum gracile*), white-stemmed filaree, and coastal heron's bill. The western project site boundary extends partially into Cambern Avenue, which is developed and devoid of vegetation.

2.3 Soils

Soils mapped by United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2022) within the survey area are shown in **Figure 2-2, Soils,** and described below.

2.3.1 Arbuckle gravelly loam, 2 to 9 percent slopes, dry, MLRA 19

This soil map unit is located in major land resource area (MLRA) 19 and contains soils resulting from alluvium derived from igneous, metamorphic, and sedimentary rock. Arbuckle soils are found in fan remnants and have slopes of 2 to 9 percent. This soil is well-drained with moderately high permeability and moderate (about 6.7 inches) water capacity. This soil type is classified as prime farmland if irrigated and is not listed by the NRCS as a hydric soil in Riverside County.



SOURCE: Nearmap, 2022; ESA, 2022

Evergreen Commercial Development Project

Figure 2-2
Soils

ESA

2.3.2 Garretson gravelly very fine sandy loam, 2 to 8 percent slopes

This soil map unit contains soils resulting from alluvium derived from metasedimentary rock. Garretson soils are found in alluvial fans and have slopes of 2 to 8 percent. This soil is well-drained with moderately high to high permeability and moderate (about 7.4 inches) water capacity. This soil type is classified as prime farmland if irrigated and is not listed by the NRCS as a hydric soil in Riverside County.

2.4 Hydrology

The survey area is identified by USGS as being located within the Santa Ana watershed (USGS Hydrologic Unit Code 18070203). Overall site hydrology drains to the south/southeast towards Drainage 1. Drainage 1 flows east offsite into a city storm drain. Riverside County Flood Control and Water Conservation District identifies the storm drain as being connected to the Third Street Channel that runs along Third Street and drains to the Lake Elsinore Outlet Channel near the Third Street/Pasadena Street intersection (Riverside County 2022). The Lake Elsinore Outlet Channel is shown as connecting to Temescal Creek, which ultimately drains to Prado Dam and the Santa Ana River (Riverside County 2022). The Santa Ana River from its mouth to the once proposed site of the Banning Avenue – Nineteenth Street bridge is the nearest downstream Traditional Navigable Water (TNW), as determined by USACE (D11 MEMO 9 Feb 78).

Drainage 1 is not identified on the National Hydrography Dataset (NHD) or National Wetlands Inventory (NWI) within the survey area as shown in **Figure 2-3, NWI and NHD Mapped Aquatic Resources within the Survey Area**. However, the drainage feature is identified by the MSHCP as a riparian/riverine area as shown in **Figure 2-4, MSHCP Riparian/Riverine Areas**. One freshwater pond feature is mapped as occurring on the west side of the survey area by the NWI dataset; however, no pond or wetland indicators were observed in the location of the mapped feature during the site investigation.

2.5 Climate

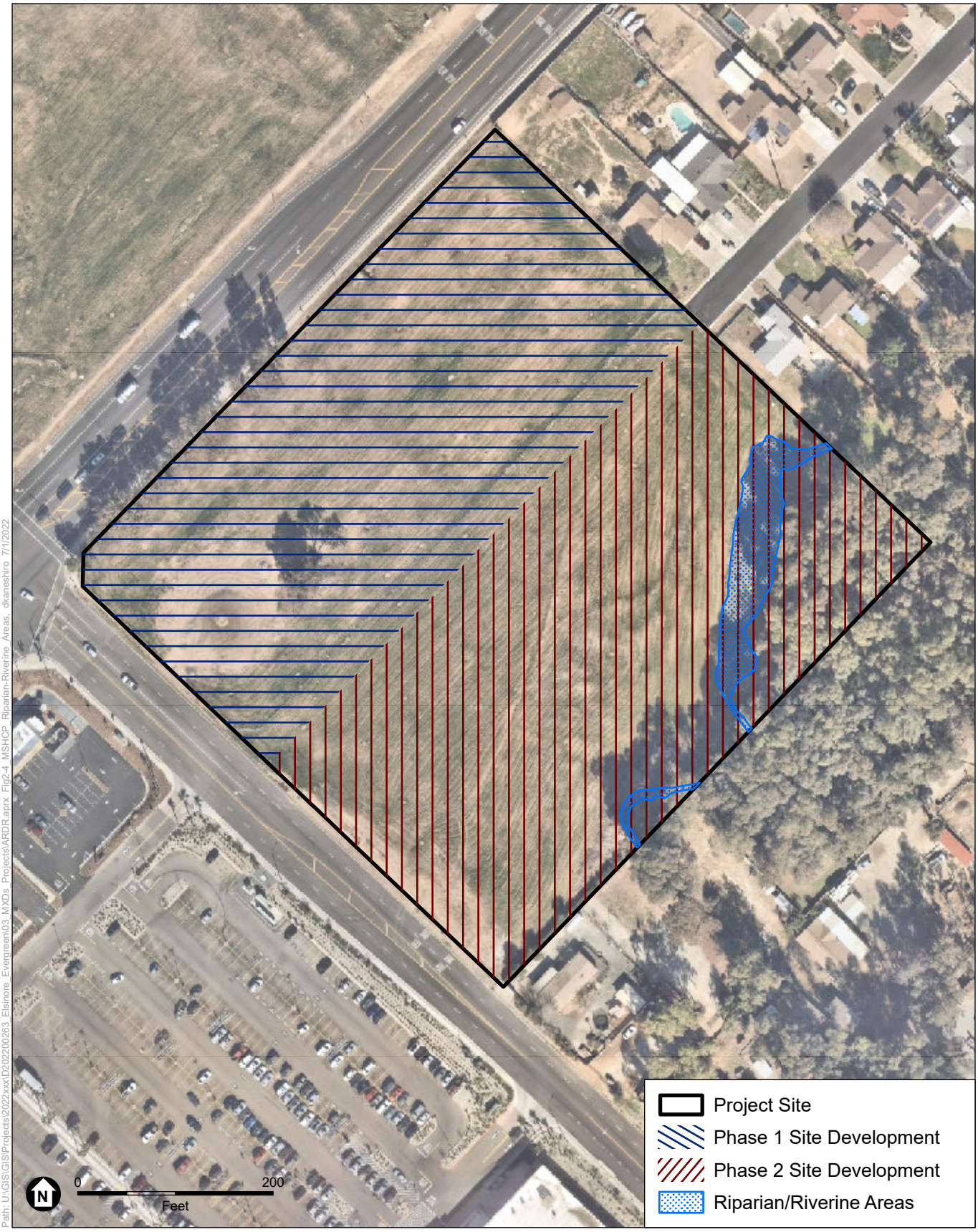
The regional vicinity is described as having a Mediterranean climate characterized by warm, dry summers and cool winters with relatively low rainfall. Average highs for the region range between 65º Fahrenheit (F) in the winter (December and January) and 98º F in the summer (July and August), while average lows range between 38º F in in the winter and 62º F in the summer (World Climate 2022).

SOURCE: Nearmap, 2022; NWI, 2021; NHD, 2021; ESA, 2022

Evergreen Commercial Development Project

Figure 2-3
NWI and NHD Mapped Aquatic Resources within the Survey Area

ESA



SOURCE: Nearmap, 2022; ESA, 2022

Evergreen Commercial Development Project

Figure 2-4
MSHCP Riparian/Riverine Areas

ESA

2.5.1 Agricultural Applied Climate Information System Wetlands Climate Table

The Agricultural Applied Climate Information System (AgACIS) Wetlands (WETS) climate table for Lake Elsinore, California is included below in **Table 2-2, Wets Table: Monthly Total Precipitation for Elsinore, CA,** for January 2011 through December 2021. The aquatic resources delineation for the project site occurred on March 3, 2022, and historically (over an 11-year sampling period), the month of February has experienced 1.48 inches mean rainfall levels and March has experienced 1.39 inches mean rainfall levels (NOAA 2022a). During the approximately two weeks leading up to the aquatic resources delineation, 0.15 inches of precipitation was recorded in the region (NOAA 2022a).

Further, the total precipitation for the previous month of February was below the historic annual mean reported for the month of February. Additionally, January mean rainfall levels were below the historic annual mean reported for those months. Based on site conditions and review of the AgACIS data provided in Table 2-2, it appears conditions at the time of the delineation were dry as compared to those typical for the months leading up to the aquatic resources delineation.

TABLE 2-2
WETS TABLE: MONTHLY TOTAL PRECIPITATION FOR ELSINORE, CA

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2011	0.70	3.07	2.96	0.46	0.78	0.07	0.10	0.09	0.03	0.44	1.37	0.74	10.81
2012	0.55	0.67	1.51	1.18	0.00	0.00	0.30	0.05	0.24	0.36	0.30	1.78	6.94
2013	0.91	0.46	0.46	0.00	0.14	0.00	0.00	0.00	0.00	0.16	0.53	0.70	3.36
2014	0.13	1.28	1.27	0.50	0.00	0.00	0.00	0.66	0.45	0.00	0.21	3.65	8.15
2015	0.55	0.37	0.44	0.11	0.96	0.00	1.27	0.00	1.08	0.11	0.12	0.58	5.61
2016	2.79	0.30	0.74	0.28	0.06	0.00	0.00	0.00	0.10	0.39	1.18	3.81	9.65
2017	8.23	3.27	0.08	0.02	0.29	0.00	0.00	0.26	0.04	0.01	0.05	0.00	12.25
2018	2.01	0.20	1.11	0.02	0.05	0.00	0.00	0.00	0.00	1.40	0.62	1.88	7.29
2019	2.95	6.28	1.97	0.04	1.13	0.00	0.10	0.00	0.00	0.00	2.27	4.26	19.00
2020	0.30	0.38	3.39	2.52	0.00	0.05	0.00	0.00	0.00	0.00	0.36	1.03	8.03
2021	1.58	0.04	1.40	0.00	0.00	0.00	0.17	0.00	0.00	0.62	0.00	4.00	7.81
Mean (2011–2021)	**1.88**	**1.48**	**1.39**	**0.47**	**0.31**	**0.01**	**0.18**	**0.10**	**0.18**	**0.32**	**0.64**	**2.04**	**8.99**
2022 (*current year*)	0.03	0.31											

SOURCE: NOAA 2021b

2.5.2 Antecedent Precipitation Tool

The Antecedent Precipitation Tool (APT) was developed by the USACE to compare recorded precipitation levels at a given location and date to the normal precipitation range at that location over the preceding 30 years. This tool analyzes similar data found in Table 2-2 above; however, it

averages precipitation from several monitoring stations and generates calculations that compare precipitation levels over time. Under USACE procedures, a jurisdictional determination for a waterbody is generally informed by understanding conditions in a "typical year" (i.e., the normal periodic range of precipitation and other climate variables for that waterbody) and this tool provides assistance in achieving that determination.

Both the single-point and watershed analyses were completed for the date of the delineation (March 3, 2022). The APT outputs are provided in **Appendix A, APT Outputs**. The single point analysis concentrates on a centralized locational point within the survey area, while the watershed analysis is based on the Palmer Drought Severity Index (PDSI) and includes an approximate 29.09 square mile area of the Arroyo Del Torro-Temescal Wash watershed including the survey area. The resulting outputs include the following information:

Palmer Drought Severity Index (PDSI) – The PDSI is a monthly dataset published by the National Oceanic and Atmospheric Association (NOAA) and is intended to measure the duration and intensity of the long-term drought-inducing circulation patterns. Long-term drought is cumulative; therefore, the results of a current month are dependent on current weather patterns in relation to the cumulative patterns for previous months (NOAA 2022b).

Average Antecedent Precipitation Score (AAPS) – The AAPS is used to determine how "wet" or "dry" a particular location (i.e., sampling point and/or date) is. The final condition is determined as follows:

- Wetter than Normal – Condition value greater than 14
- Normal – Condition ranging from 10 to 14
- Drier than Normal – Condition value less than 10

The average of the dates and/or sampling points analyzed are presented as an AAPS and a preliminary determination is made for the sampling location.

The results of the PDSI indicated the region is experiencing extreme drought, and the AAPS of 8 resulted in a preliminary determination of drier than normal. Based on these results, it appears that the region is enduring a drought.

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CHAPTER 3
Regulatory Framework

3.1 Waters of the U.S.

The 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.

In 1986, the term "*waters of the United States*" was defined as follows (33 CFR 328.3[a]):

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

(2) All interstate waters including interstate wetlands;

(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

(i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

(ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(iii) Which are used or could be used for industrial purpose by industries in interstate commerce;

(4) All impoundments of waters otherwise defined as waters of the United States under the definition;

(5) Tributaries of waters identified in paragraphs (a)(1) through (4) of this section;

(6) The territorial seas; and

(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1) through (6) of this section.

(8) Waters of the United States do not include prior converted cropland. 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.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m), which also meet the criteria of this definition) are not waters of the United States

Wetlands (including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas) are also considered waters of the U.S. (subject to the significant nexus test), and are defined by USACE as "those areas that are inundated or saturated by surface or groundwater 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" (33 CFR 328.3[b]; 40 CFR 230.3[t]). Indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by field investigation, must be present for a site to be classified as a wetland by USACE (Environmental Laboratory 1987).

3.1.1 Solid Waste Agency of Northern Cook County (SWANCC) v. United States

In 2001 and again in 2003, the agencies developed guidance to address the definition of "*waters of the United States*" under the Clean Water Act following the SWANCC Supreme Court decision. Isolated, intrastate waters that are capable of supporting navigation by watercraft remain subject to CWA jurisdiction after SWANCC if they are traditional navigable waters. However, SWANCC eliminates CWA jurisdiction over isolated waters that are intrastate and non-navigable.

3.1.2 Rapanos v. United States & Carabell v. United States

The USACE and the Environmental Protection Agency (EPA) have issued a set of guidance documents detailing the process for determining CWA jurisdiction (waters of the U.S.) following the 2008 Rapanos decision. The EPA and USACE issued a summary memorandum of the guidance for implementing the Supreme Court's decision in Rapanos that addresses the jurisdiction over waters of the U.S. under the CWA. The complete set of guidance documents, summarized as key points below, were used to collect relevant data for evaluation by the EPA and the USACE to determine CWA jurisdiction over the project and to complete the "significant nexus test" as detailed in the guidelines.

The significant nexus test includes consideration of hydrologic and ecologic factors. For circumstances such as those described in the Rapanos Guidance Key Points Summary (EPA 2008) below, the significant nexus test would take into account physical indicators of flow (evidence of an OHWM), if a hydrologic connection to a TNW exists, and if the aquatic functions of the water body have a significant effect (more than speculative or insubstantial) on the chemical, physical, and biological integrity of a TNW. The USACE and EPA will apply the significant nexus standard to assess the flow characteristics and functions of a potential water of

the U.S. to determine if it significantly affects the chemical, physical, and biological integrity of the downstream TNW.

The agencies will assert jurisdiction over the following waters:

- Traditional navigable waters (TNWs)
- Wetlands adjacent to TNWs
- Non-navigable tributaries of TNWs that are relatively permanent (i.e., the tributaries typically flow year-round or have continuous flow at least seasonally)
- Non-navigable tributaries of traditional navigable waters that are relatively permanent (RPW) where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months)
- Wetlands that directly share a boundary with such tributaries

The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a TNW:

- Non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally
- Wetlands adjacent to such tributaries
- Wetlands adjacent to but that do not directly border a relatively permanent non-navigable tributary

The agencies will apply the significant nexus evaluation as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if in combination they significantly affect the chemical, physical and biological integrity of downstream TNWs.
- Significant nexus includes consideration of hydrologic and ecologic factors.

3.1.3 Pascua Yaqui Tribe v. U.S. Environmental Protection Agency

Waters of the U.S. were most recently defined by the Navigable Waters Protection Rule, which went into effect on June 22, 2020. However, a U.S. District Court for the District of Arizona's August 30, 2021 order vacated and remanded the Navigable Waters Protection Rule in the case of *Pascua Yaqui Tribe v. U.S. Environmental Protection Agency*. In light of this order, the agencies have halted implementation of the Navigable Waters Protection Rule and are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime until further notice.

3.1.4 Section 401 CWA

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 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.

3.2 Waters of the State

Most projects involving water bodies or drainages are regulated by the RWQCB, the principal State agency overseeing water quality of the state at the local/regional level. The survey area is located within the jurisdiction of the Santa Ana RWQCB (Region 8). Where waters of the State overlap with waters of the U.S., pending verification from the USACE, those waters would be regulated under Section 401 of the CWA, which is described in Section 3.1, Waters of the U.S., in Chapter 3, Regulatory Framework.

In the absence of waters of the U.S., 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 applied for by the applicant and issued by RWQCB is either a Water Quality Certification in the presence of waters of the U.S. or a Waste Discharge Requirement (WDR) in the absence of waters of the U.S.

The State Wetlands Procedures, as prepared by the State Water Resources Control Board, was implemented on May 28, 2020 (revised April 6, 2021; SWRCB 2019). The State Wetlands Procedures include a definition for wetland waters of the State that include 1) all wetland waters of the U.S.; and 2) aquatic resources that meet both the soils and hydrology criteria for wetland waters of the U.S. but lack vegetation.[1]

3.3 Lakes, Streams, and Associated Vegetation

Pursuant to Division 2, Chapter 6, Section 1602 of the FGC, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream, or lake that supports fish or wildlife. A notification of a Lake or Streambed Alteration Agreement 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 jurisdiction over wetland and riparian habitats associated with watercourses. The 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 or Streambed Alteration Agreement.

1 Less than 5 percent areal coverage at the peak of the growing season.

3.4 MSHCP Riparian/Riverine Areas

Pursuant to Western Riverside County MSHCP Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, the potential effect of proposed project activities occurring within the MSHCP must be assessed regarding any and all impacts to riparian/riverine areas. Riparian/riverine areas include "those that contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or depend upon soil moisture from a nearby water source; or areas with fresh water flow during all or a portion of the year" (Dudek 2003). Under the MSHCP, aquatic resources should be avoided, but if avoidance is not feasible, a Determination of Biological Equivalent or Superior Preservation (DBESP) should be prepared for review by the applicable agencies. For a more detailed discussion of MSHCP and DBESP requirements pertaining to Riparian/Riverine Areas, see the enclosed DBESP report (ESA 2022).

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CHAPTER 4
Methodology

4.1 Database and Literature Review

Prior to 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 (USDA 2022);
- USGS 7.5' topographic quadrangle map: Lake Elsinore (USGS 2018);
- Current aerial imagery (Google Earth 2022);
- Precipitation data from the Antecedent Precipitation Tool (APT), (USACE 2022) and Applied Climate Information System (NOAA 2022a);
- The National Wetlands Inventory (NWI) (USFWS 2022); and
- National Hydrography Dataset (NHD), (USGS 2022).

The results of the NWI and NHD database query are provided in Figure 2-3.

4.1.1 National Wetlands Inventory

Aerial maps (Google Earth 2022) and the NWI were used to conduct a preliminary assessment of the limits of aquatic features in the survey area. Within the survey area, the NWI mapped one freshwater pond as PUBK.

The PUBK classification is as follows:

- System Palustrine (P): The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppt. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 8 ha (20 acres); (2) active wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part of basin less than 2.5 m (8.2 ft) at low water; and (4) salinity due to ocean-derived salts less than 0.5 ppt.
- Class Unconsolidated Bottom (UB): Includes all wetlands and deepwater habitats with at least 25% cover of particles smaller than stones (less than 6-7 cm), and a vegetative cover less than 30%.
- Water Regime Artificially Flooded (K): The amount and duration of flooding are controlled by means of pumps or siphons in combination with dikes, berms, or dams. The vegetation

growing on these areas cannot be considered a reliable indicator of Water Regime. Examples of Artificially Flooded wetlands are some agricultural lands managed under a rice-soybean rotation, and wildlife management areas where forests, crops, or pioneer plants may be flooded or dewatered to attract wetland wildlife. Neither wetlands within nor resulting from leakage from man-made impoundments, nor irrigated pasturelands supplied by diversion ditches or artesian wells, are included under this Modifier. The Artificially Flooded Water Regime Modifier should not be used in the Riverine system or for impoundments or excavated wetlands unless both water inputs and outputs are controlled to achieve a specific depth and duration of flooding.

4.2 Field Survey Methods

Aquatic resources of the entire survey area were delineated on March 3, 2022 led by ESA Biologists Robert Sweet and Daryl Koutnik. Field data was collected using an Eos Arrow 100 Global Navigation Satellite System receiver, which provides Satellite-based Augmentation System corrections processing in the field and can provide 60 cm real-time horizontal accuracy.

Surveys were 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. 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 State.

4.2.1 Waters of the U.S.

Delineation of potential jurisdictional and non-jurisdictional other waters of the U.S., as determined by the presence of an OHWM, was based on the guidance in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b) and topographic data.

Based on the pre-field review (Section 4.1, Database and Literature Review), wetlands were not expected to be present within the survey area and were not delineated.

Other Waters of the U.S.

As stated above in Section 3.1, requirements for determination of whether aquatic features with an intermittent and/or ephemeral flow regime have a significant nexus with a TNW include an assessment of the flow characteristics and functions of the tributary itself and the functions performed by all non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally to determine if in combination they significantly affect the chemical, physical and biological integrity of downstream TNWs. A significant nexus determination was completed for Drainage 1, an ephemeral tributary (relatively permanent waters, RPWs, do not require a significant nexus determination, and are considered waters of the

U.S. as long as they connect downstream to a TNW). The determination was made by weighing the following factors:

- General: Distance to nearest TNW, areal extent of drainage area
- Physical: Quantitative estimate of flow (Q) using the Rational Method
- Chemical: identification of any pollutant sources that may contribute to downstream impaired water bodies
- Biological: Observations of habitat supporting plant and/or animal species

Rational Method determinations were made using the following values:

- Runoff coefficient based on land use/land cover (C = 0.21 for smaller events; C=0.25 for larger events)
- Rainfall intensity based on isopluvial mapping
- Storm duration and return interval

The significant nexus determination was made by assessing the above information such that if the drainage was found to have a more than insignificant effect on at least one of the three factors (physical, chemical, or biological), a positive determination was made. The significant nexus determination result is located in Section 5.2.1, Clean Water Act Analysis, below.

4.2.2 Waters of the State

Waters of the State outside of CWA Section 401 jurisdiction and subject to Porter-Cologne Water Quality Cologne Act were delineated to also include features that convey ephemeral flows.

4.2.3 Rivers, Streams, and Lakes

FGC Section 1600 resources were delineated to include streambanks up to the top of bank (TOB), defined as the furthest break in slope or change in substrate, from the bed of the channel, prior to reaching adjacent upland areas, and/or associated wetlands and riparian vegetation to the outer dripline.

4.2.4 MSHCP Riparian/Riverine Areas

MSCHP riparian/riverine areas were also delineated and coincide with FGC Section 1600 resources.

4.3 Mapping and Acreage Calculations

Data collected during the aquatic resources delineation were recorded using a hand-held GPS unit (Eos Arrow 100) with sub-meter accuracy. Data collected in the field were mapped using GIS software on an overlay of topographic contours and geo-referenced orthorectified aerial imagery. GPS data points were visually confirmed and the acreage of potential other waters of the State and potential CDFW-jurisdictional streams and associated vegetation were mapped using ArcGIS.

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CHAPTER 5
Results

All aquatic features within the survey area were analyzed in the field to determine whether each may be considered a wetland or non-wetland ("other") waters of the U.S., waters of the State, and/or FGC Section 1600 resource/ MSCHP riparian/riverine area. Representative photographs from the field aquatic resources delineation are provided in **Appendix B, Representative Site Photographs**.

5.1 Aquatic Resources

Aquatic resources delineated within the survey area include one ephemeral drainage, which is described below and depicted in **Figure 5-1, Aquatic Resources (U.S. and State) within the Project Site,** and **Figure 5-2, Features Subject to Fish and Game Code Section 1600 et seq**. No wetland features were identified during the site investigation.

5.1.1 Drainage 1

Drainage 1 is an unnamed ephemeral drainage appearing to originate within a residential development just south of Riverside Street approximately 1.5 miles northeast of the survey area. The drainage flows southwest from the residential development crossing under Rosetta Canyon Drive and flowing through an agricultural field for approximately 1,200 feet before entering a culvert near the Welch Road cul-de-sac. It appears as though the culvert outlet adjacent to the northeast of Conard Avenue located approximately 700 feet northeast of the survey area receives the flows from the drainage. The drainage immediately enters another culvert that passes under Conrad Avenue where it daylights and flows southwest for approximately 630 linear feet before entering the survey area in the east corner of the project site. The drainage feature continues southwest through the east corner of the survey area before turning south and flowing offsite for approximately 85 linear feet. The feature reenters the survey area for 175 linear feet where it finally exits the project site on the southeast side of the survey area. At this point, Drainage 1 continues downstream for approximately 400 linear feet before entering a Riverside County Flood Control and Water Conservation District storm drain. As mentioned in Section 2.4, Riverside County Flood Control and Water Conservation District identifies the storm drain as being connected to the Third Street Channel that runs along Third Street and drains to the Lake Elsinore Outlet Channel near the Third Street/Pasadena Street intersection (Riverside County 2022).

SOURCE: Nearmap, 2022; ESA, 2022

Evergreen Commercial Development Project

Figure 5-1
Aquatic Resources (U.S. and State) within the Project Site

ESA

SOURCE: Nearmap, 2022; ESA, 2022

Evergreen Commercial Development Project

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

ESA

Drainage 1 likely receives surface water runoff and stormwater inputs from surrounding development; however, the drainage was dry at the time of the survey and no surface water was present. The limits of potential waters of the U.S. and State were based on the presence of OHWM indicators, including clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; and/or the presence of litter and debris. Based on these indicators, it was determined that OHWM widths range from 2-30 feet, and the feature is approximately 0.10 acre (469 linear feet).

5.2 Waters of the U.S.

5.2.1 Clean Water Act Analysis

The CWA Part 328.3 defines jurisdictional waters of the U.S. to include tributaries of waters identified in paragraphs (a)(1) through (4) [33 CFR 328.3(a)(5)]. ESA biologists assessed downstream connectivity of Drainage 1 to determine whether the feature provides a significant nexus to a TNW. It was determined that Drainage 1 exits the eastern project site boundary and continues downstream for approximately 400 linear feet before entering a storm drain. Unless otherwise demonstrated, it is assumed that this storm drain exhibits connectivity to Temescal Creek, a tributary to a TNW (the Santa Ana River), located approximately 1.5 miles downstream from Drainage 1. The Santa Ana River TNW is located approximately 57 river miles downstream of the Drainage 1 storm drain. Temescal Creek is not listed as an impaired waterbody within this reach; however, as the creek enters Prado Dam and the Santa Ana River, the condition is listed as good (EPA 2022). No substantial sources of chemical contaminants were noted within the drainage area for Drainage 1; however, a majority of the land use immediately adjacent to the drainage area is made up residential development, on-going agricultural activities, and roadways leading to runoff into the drainage area. These inputs lead to increased contaminants being conveyed downstream. Drainage 1 supports limited habitat for plant and animal species as it does not support wetlands, a well-developed, multi-canopy riparian corridor, or any ecologically valuable upland habitat. Finally, based on the results of the Rational Method analysis (**Table 5-1**), Drainage 1 is expected to convey a low volume of stormflows during long (six or more hours) rain events contributing an insignificant amount of flow downstream to the Santa Ana River TNW. However, the Rational Method results show the drainage is expected to convey a high volume of flow downstream during short (one hour) rain events contributing more significant flows downstream. Therefore, based on the results of this significant nexus analysis, Drainage 1 is expected to significantly affect the chemical and physical integrity of its downstream TNW, potentially meeting the criteria for waters of the U.S.

TABLE 5-1
RATIONAL METHOD RESULTS

Drainage Area (acres)	Runoff Coefficient (C)	Return Interval (years)	Hours	Accumulation (inches)	Rainfall Intensity (inches/hour)	Qp0.21 (cfs)[1]	Qp0.25 (cfs)[1]
110	0.21	2	1	1.5	0.6	13.3	-
	0.25	2	6	1.4	0.2	5.4	-
		2	24	2.0	0.1	1.9	-
		100	1	1.5	1.5	-	39.9
		100	6	3.0	0.5	-	13.8
		100	24	6.0	0.3	-	6.9

NOTES:

[1] Qp means the quantitative estimate of flow in cubic feet per second (Q) using the runoff coefficient (here: 0.21 for smaller events or 0.25 for larger events), which results in the estimated volume flow in cubic feet per second. Rainfall intensity is calculated by dividing accumulation by storm duration.

SOURCES: Bryant 1978; ESA 2022

5.3 Waters of the State

5.3.1 Waters of the State Analysis

No state wetlands (as defined in the State Wetlands Procedures) were present in the survey area. However, Drainage 1 is likely to be considered waters of the State based on the presence of OHWM indicators identified in Section 5.1, Aquatic Resources, above. Therefore, the 0.10 acre (469 linear feet) meet criteria for waters of the State.

5.4 Rivers, Streams, and Lakes

A 0.26 acre (469 linear feet) stream, including associated vegetation, is subject to regulation under Division 2, Chapter 6, Section 1600 et seq. of the FGC, as shown in Figure 5-2.

5.5 MSHCP Riparian/Riverine Areas

As stated previously, the boundaries of MSHCP riparian/riverine areas coincide with FGC Section 1600 resources and are shown in Figure 5-2.

5.5 Conclusion

This report documents the aquatic resources boundary delineation and best professional judgment of ESA investigators. The extent of jurisdictional boundaries identified are considered preliminary pending verification from the appropriate regulatory agencies.

Based on the results of the aquatic resources delineation and the jurisdictional analysis, it is presumed that 0.10 acre (469 linear feet) of potential other (non-wetland) waters of the U.S. and

State occurs within the survey area. Additionally, it is presumed that 0.26 acre of stream and associated riparian habitat occurring within the survey area are potentially jurisdictional under Section 1600 et seq. of the FGC and the Western Riverside County MSHCP.

CHAPTER 6
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Appendix A
APT Outputs

ESA

Antecedent Precipitation Tool v.1.0 - Watershed Sampling Summary

Generated on 2022-06-22

User Inputs

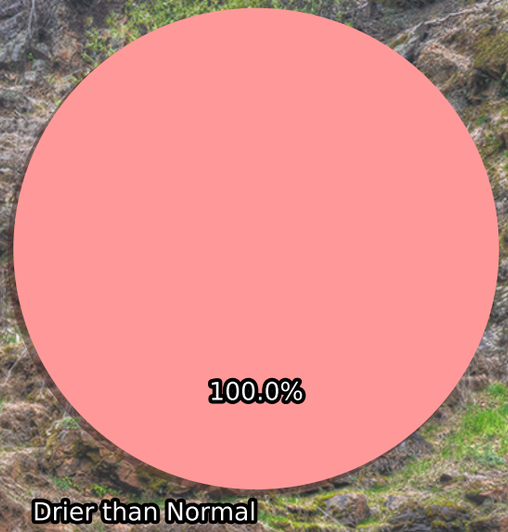
Coordinates	33.695512, -117.332349
Date	2022-03-03
Geographic Scope	HUC12

Intermediate Data

Hydrologic Unit Code	180702030601
Watershed Size	29.09 mi^2
# Random Sampling Points	3

Preliminary Result

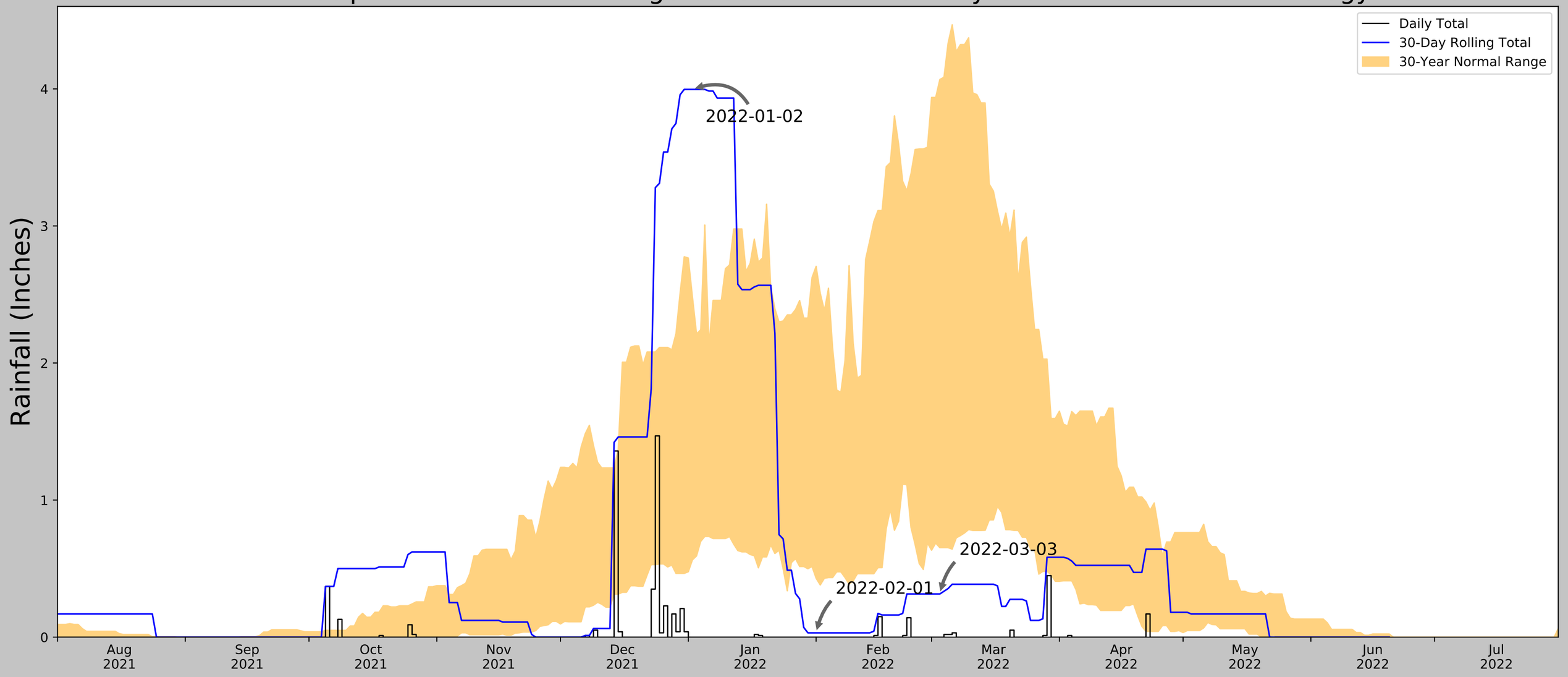
Average Antecedent Precipitation Score	8.0
Preliminary Determination	Drier than Normal



Sampling Point Breakdown

Antecedent Precipitation Score	Antecedent Precipitation Condition	WebWIMP H_2O Balance	Drought Index (PDSI)	# of Points
8	Drier than Normal	Wet Season	Extreme drought	3

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



Coordinates	33.695512, -117.332349
Observation Date	2022-03-03
Elevation (ft)	1339.25
Drought Index (PDSI)	Extreme drought
WebWIMP H_2O Balance	Wet Season

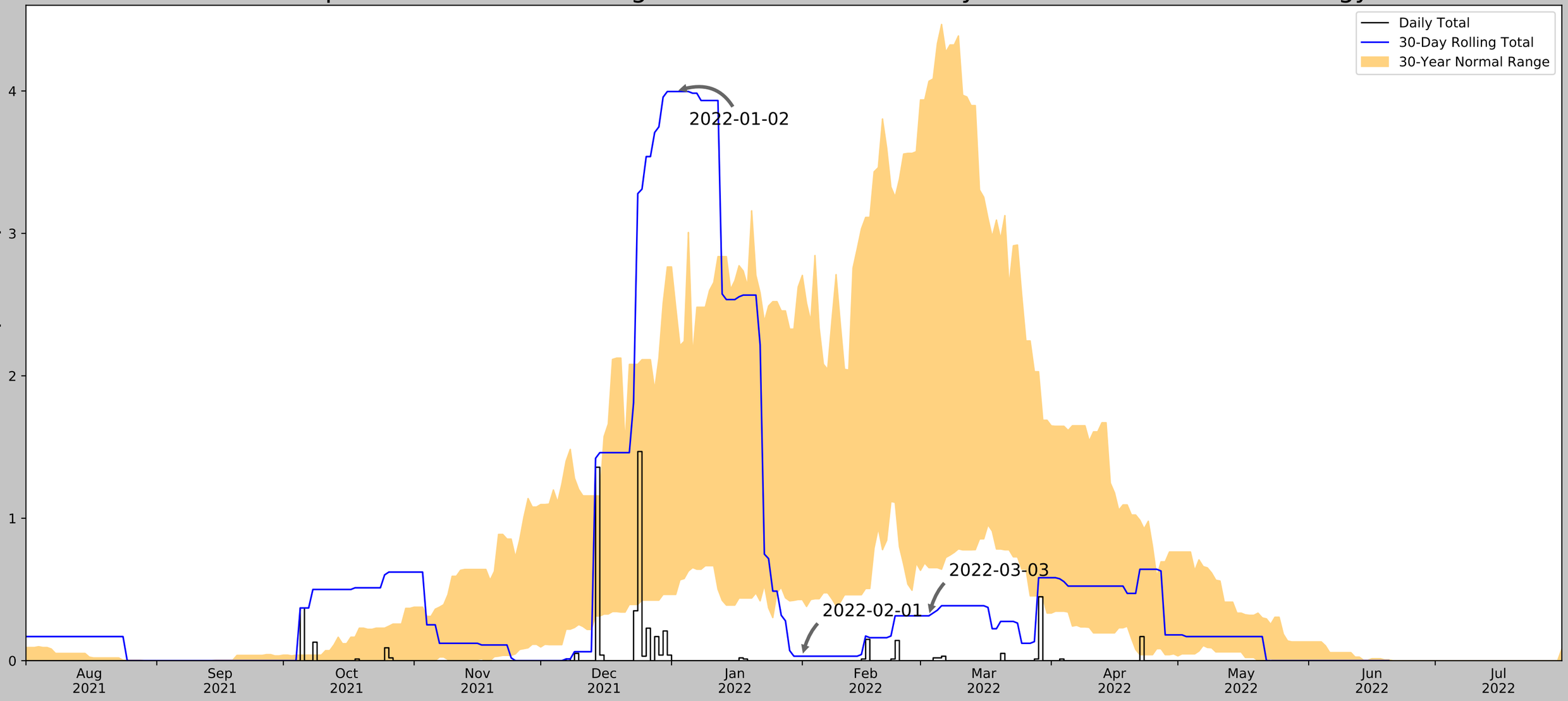
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-03-03	0.652756	4.068504	0.314961	Dry	1	3	3
2022-02-01	0.429134	2.705906	0.031496	Dry	1	2	2
2022-01-02	0.563386	2.483858	3.996063	Wet	3	1	3
Result							Drier than Normal - 8

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
ELSINORE	33.6861, -117.3458	1268.045	1.01	71.205	0.526	10806	90
CORONA 12.5 SE	33.7346, -117.4315	1301.837	6.306	37.413	3.074	2	0
CORONA 12.8 SE	33.7307, -117.4276	1403.871	5.99	64.621	3.083	2	0
SUN CITY	33.7156, -117.19	1419.948	8.299	80.698	4.404	123	0
FALLBROOK 5 NE	33.4392, -117.1903	1140.092	19.507	199.158	12.663	9	0
REDLANDS	34.0369, -117.1947	1410.105	24.875	70.855	12.956	376	0
SAN JACINTO	33.7964, -116.9753	1524.934	21.665	185.684	13.772	31	0
RIVERSIDE CITRUS EXP	33.9669, -117.3614	985.892	18.825	353.358	15.123	4	0

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

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



Coordinates	33.710285, -117.316737
Observation Date	2022-03-03
Elevation (ft)	1530.69
Drought Index (PDSI)	Extreme drought
WebWIMP H_2O Balance	Wet Season

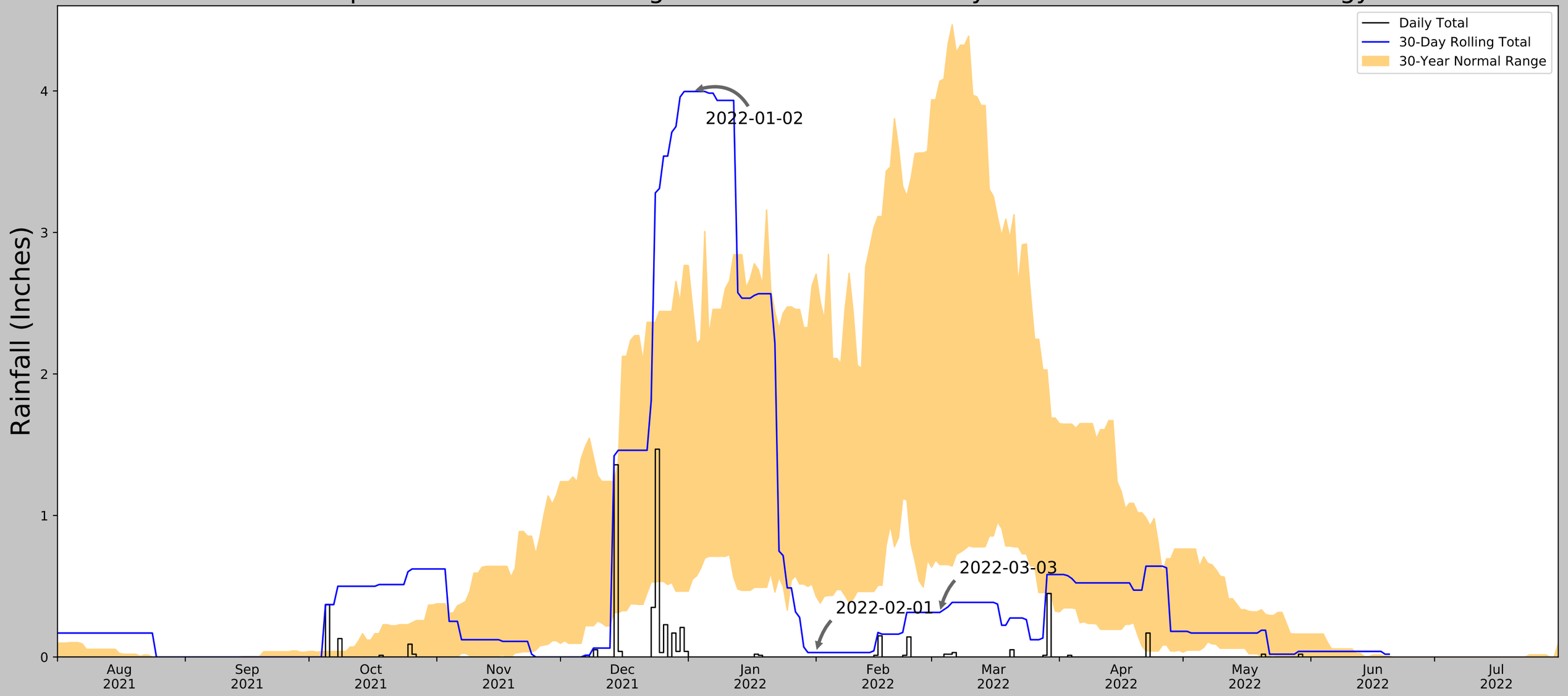
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-03-03	0.652756	4.068504	0.314961	Dry	1	3	3
2022-02-01	0.429134	2.705906	0.031496	Dry	1	2	2
2022-01-02	0.464961	2.483858	3.996063	Wet	3	1	3
Result							Drier than Normal - 8

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
ELSINORE	33.6861, -117.3458	1268.045	2.363	262.645	1.684	10806	90
CORONA 12.8 SE	33.7307, -117.4276	1403.871	6.525	126.819	3.764	4	0
SUN CITY	33.7156, -117.19	1419.948	7.293	110.742	4.089	123	0
SAN JACINTO	33.7964, -116.9753	1524.934	20.497	5.756	9.342	349	0
REDLANDS	34.0369, -117.1947	1410.105	23.628	120.585	13.482	67	0
HEMET	33.7381, -116.8939	1811.024	24.375	280.334	17.802	4	0

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



Coordinates	33.756517, -117.360485
Observation Date	2022-03-03
Elevation (ft)	2017.92
Drought Index (PDSI)	Extreme drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-03-03	0.652756	4.068504	0.314961	Dry	1	3	3
2022-02-01	0.429134	2.705906	0.031496	Dry	1	2	2
2022-01-02	0.549213	2.483858	3.996063	Wet	3	1	3
Result							Drier than Normal - 8

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
ELSINORE	33.6861, -117.3458	1268.045	4.938	749.875	5.925	10806	90
CORONA 12.8 SE	33.7307, -117.4276	1403.871	4.249	614.049	4.521	4	0
SUN CITY	33.7156, -117.19	1419.948	10.196	597.972	10.685	123	0
HEMET	33.7381, -116.8939	1811.024	26.836	206.896	17.628	420	0

Appendix B
Representative Site Photographs

ESA

Photo 1. Photo depicting Conard Avenue inlet located adjacent to the northeast of Conard Avenue.

Photo 2. Photo depicting Drainage 1 where it enters the survey area on the east side of the survey area.

Photo 3. Photo depicting scale broom scrub within Drainage 1.

Photo 4. Photo depicting Drainage 1 crossing the project site boundary into the adjacent property on the east side of the project site.

Photo 5. Photo depicting Drainage 1 returning to the project site from the adjacent property.

Photo 6. Photo depicting Drainage 1 leaving the survey area where it continues offsite until it reaches a storm drain along Cambern Avenue.

Photo 7. Offsite portion of Drainage 1 before it enters the storm drain along Cambern Avenue.

Photo 8. Storm drain located along Cambern Avenue.