BIOLOGICAL RESOURCES ASSESSMENT, JURISDICTIONAL DELINEATION, AND MSHCP CONSISTENCY ANALYSIS FOR PARCEL 237-130-023 CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA

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Contents

SECTION 1.0 - INTRODUCTION 4
1.1 PROJECT LOCATION 4
1.2 PROJECT DESCRIPTION 4
2.0 – METHODOLOGY 4
2.1 LITERATURE REVIEW 4
2.2 SOILS 5
2.3 BIOLOGICAL RECONNAISSANCE-LEVEL SURVEY 5
2.4 JURISDICTIONAL FEATURES 5
2.5 WESTERN RIVERSIDE MULTIPLE SPECIES HABITAT CONSERVATION PLAN 5
2.6 VEGETATION 6
2.7 WILDLIFE 6
2.8 CITY OF RIVERSIDE MUNICIPAL CODE 6
SECTION 3.0 – RESULTS 6
3.1 LITERATURE REVIEW RESULTS 6
3.1.1 SOILS 7
3.1.2 JURISDICTIONAL WATERS 7
3.1.3 HYDROLOGY AND HYDROLOGIC CONNECTIVITY 7
3.1.4 MSHCP 8
3.1.5 RIVERSIDE-CORONA RESOURCE CONSERVATION DISTRICT 8
3.2 FIELD STUDY RESULTS 9
3.2.1 HABITAT 9
3.2.2 WILDLIFE 9
3.2.3 SPECIAL STATUS SPECIES 9
3.2.4 JURISDICTIONAL WATERS 10
3.2.5 WETLANDS 10
3.2.6 RIVERSIDE-CORONA RESOURCE CONSERVATION DISTRICT 10
3.3 MSHCP Consistency Analysis 11
3.3.1 Subunit Area/Cell Criteria 11
3.3.2 Narrow Endemic Plant Species 11
3.3.3 Criteria Area Species 11
3.3.4 Riparian/Riverine Areas and Vernal Pools 12

3.3.5 Urban/ Wildlands Interface 13
3.4 City of Riverside Municipal Code and Arroyos 13
SECTION 4.0 - CONCLUSIONS AND RECOMMENDATIONS 14
Section 5 – REFERENCES 17
Appendix A - Figures 18
Appendix B - Photos 31
Appendix C – Regulatory Framework 35
Appendix D – Tables 43
Appendix E – Datasheets 61
Appendix F – RCRCD Site Assessment 66
Appendix G – RCRCD Supplemental Site Assessment 72

SECTION 1.0 - INTRODUCTION

Jennings Environmental, LLC (Jennings) was retained by the property owner Lynette Pasley (Owner) to conduct a literature review and reconnaissance-level survey for the proposed Conditional Use Permit (CUP) for Assessor's Parcel Number (APN) 274-120-026 (Project). The survey identified vegetation communities, the potential for the occurrence of special status species, or habitats that could support special status wildlife species, and recorded all plants and animals observed or detected within the Project boundary. This biological resources assessment is designed to address potential effects of the proposed project to designated critical habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) or species designated as sensitive by the California Department of Fish and Wildlife (CDFW) or the California Native Plant Society (CNPS). Unnamed

Information contained in this document is in accordance with accepted scientific and technical standards that are consistent with the requirements of the United States Fish and Wildlife Service (USFWS) and (CDFW). Additionally, the site was surveyed for any drainage features that would meet the definition of the Waters of the US (WOUS), Waters of the State (WOS), or CDFW jurisdiction. Additionally, the project is located within the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP). As such, this report also contains the results of the consistency analysis performed for the project.

1.1 PROJECT LOCATION

The project is generally located in the eastern portion of the northeast portion of Sections 15 and 16, Township 3 South, Range 5 West, and is depicted on the *Riverside West* U.S. Geological Survey's (USGS) 7.5-minute topographic map. More specifically the project is located within APN 237-130-023, within the City of Riverside, Riverside County, California. The Project site is located at 2190 St. Lawrence Street, approximately 0.15 miles southeast from the intersection of Dufferin Ave and St. Lawrence Street. The site is surrounded by residential development, equestrian facilities, and agricultural facilities. (Figures 1 and 2 in Appendix A).

1.2 PROJECT DESCRIPTION

The proposed Project is for the City of Riverside to issue the property owner a Conditional Use Permit and Grading Exception to Legalize, for the existing facilities on the property. The property is currently zoned for residential/agriculture. Current uses on the property include storage buildings, stables for horses, horse pens and rings, and an agricultural pond. The Project does not include the construction of any new facilities and all existing facilities would stay.

2.0 – METHODOLOGY

2.1 LITERATURE REVIEW

Prior to performing the field survey, existing documentation relevant to the Project site was reviewed. The most recent records of the California Natural Diversity Database (CNDDB) managed by CDFW (CDFW 2020), the USFWS Critical Habitat Mapper (USFWS 2020), and the California Native Plant Society's Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California (CNPS 2020) were

reviewed for the following quadrangles containing and surrounding the Project site: *Riverside East, Riverside West, Steele Peak* and *Lake Matthews*, USGS 7.5 minute quadrangles. The *Riverside West, Steele Peak,* and *Lake Matthews* quadrangles were included in this search due to the Project's vicinity to these quads. These databases contain records of reported occurrences of federal- or state-listed endangered or threatened species, California Species of Concern (SSC), or otherwise special status species or habitats that may occur within or in the immediate vicinity of the Project site.

2.2 SOILS

Before conducting the surveys, soil maps for Riverside County were referenced online to determine the types of soil found within the Project site. Soils were determined in accordance with categories set forth by the United States Department of Agriculture (USDA) Soil Conservation Service and by referencing the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2020).

2.3 BIOLOGICAL RECONNAISSANCE-LEVEL SURVEY

Jennings biologist, Gene Jennings, conducted the general reconnaissance survey within the Project site to identify the potential for the occurrence of special status species, vegetation communities, or habitats that could support special status wildlife species. The surveys were conducted on foot, throughout the Project site between 0800 and 0900 hours on September 7, 2020. Weather conditions during the survey included temperatures ranging from 75 to 82 degrees Fahrenheit, with no cloud cover, no precipitation, 0 to 2 mile per hour winds. Photographs of the Project site were taken to document existing conditions (Appendix B).

2.4 JURISDICTIONAL FEATURES

A general assessment of jurisdictional waters regulated by the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW was conducted for the proposed Project area. Pursuant to Section 404 of the Clean Water Act, USACE regulates the discharge of dredged and/or fill material into waters of the United States. The State of California (State) regulates the discharge of material into waters of the State pursuant to Section 401 of the Clean Water Act and the California Porter- Cologne Water Quality Control Act (California Water Code, Division 7, §13000 et seq.). Pursuant to Division 2, Chapter 6, Sections 1600-1602 of the California Fish and Game Code, CDFW regulates all substantial diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife. The assessment was conducted by a desktop survey through the USGS National Hydrography Dataset for hydrological connectivity. Additional discussion of the regulatory framework is provided in Appendix C.

2.5 WESTERN RIVERSIDE MULTIPLE SPECIES HABITAT CONSERVATION PLAN

The MSHCP is intended to balance the demands of the growth of western Riverside County with the need to preserve open space and protect species of plants and animals that are threatened with extinction. The MSHCP addresses incidental take of “covered” species. Of the 146 species addressed in the Western Riverside County MSHCP, 118 are adequately conserved simply by implementing the conservation program. Incidental take of these 118 species is permitted by the Western Riverside County MSHCP. The remaining 28 species are partially conserved. They would be adequately conserved when certain additional conservation requirements are implemented. The additional requirements are identified in the

species-specific conservation objectives for those 28 species. The Riverside Conservation Authority (RCA) is the governing body that administers the MSHCP. Their database was researched prior to conducting the filed visit.

2.6 VEGETATION

All plant species observed within the Project site were recorded. Vegetation communities within the Project site were identified, qualitatively described, and mapped onto a high-resolution imagery aerial photograph. Plant communities were determined in accordance with the *Manual of California Vegetation*, *Second Edition* (Sawyer et al. 2009). Plant nomenclature follows that of *The Jepson Manual, Second Edition* (Baldwin et al. 2012). A comprehensive list of the plant species observed during the survey is provided in Appendix D.

2.7 WILDLIFE

All wildlife and wildlife signs observed and detected, including tracks, scat, carcasses, burrows, excavations, and vocalizations, were recorded. Additional survey time was spent in those habitats most likely to be utilized by wildlife (native vegetation, wildlife trails, etc.) or in habitats with the potential to support state- and/or federally listed or otherwise special status species. Notes were made on the general habitat types, species observed, and the conditions of the Project site. A comprehensive list of the wildlife species observed during the survey is provided in Appendix D.

2.8 CITY OF RIVERSIDE MUNICIPAL CODE

The City of Riverside Municipal Code *17.08.011 Arroyo* contains the following definition regarding arroyos.

> "Arroyo" shall mean those areas shown within the limits of the Mockingbird Canyon, Woodcrest, Prenda, Alessandro, Tequesquite, or Springbrook Arroyos and associated tributaries a shown on Exhibits A-F of this title. The limits of these arroyos and arroyo tributaries shall include all the land within the water course area, the adjacent slopes having an average natural slope of 30 percent or greater, and all other areas within the boundaries shown on Exhibits A-F of this title.

SECTION 3.0 – RESULTS

3.1 LITERATURE REVIEW RESULTS

According to the CNDDB, CNPSEI, and other relevant literature and databases, 70 sensitive species including 18 listed species and 6 sensitive habitats, have been documented in the *Riverside East, Riverside West, Steele Peak,* and *Lake Matthews* quads. This list of sensitive species and habitats includes any State and/or federally listed threatened or endangered species, CDFW designated Species of Special Concern (SSC), and otherwise Special Animals. “Special Animals” is a general term that refers to all of the taxa the CNDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of “species at risk” or “special status species.” The CDFW considers the taxa on this list to be those of greatest conservation need.

An analysis of the likelihood for the occurrence of all CNDDB sensitive species documented in the *Riverside East, Riverside West, Steele Peak,* and *Lake Matthews* quads are provided in Table 2, in Appendix D. This

analysis takes into account species range as well as documentation within the vicinity of the project area and includes the habitat requirements for each species and the potential for their occurrence on the site, based on required habitat elements and range relative to the current site conditions. According to the databases, no USFWS designated critical habitat occurs within or adjacent to the project site.

3.1.1 SOILS

After review of USDA Soil Conservation Service and by referencing the USDA NRCS Web Soil Survey (USDA 2020), it was determined that the Project site is located within the Western Riverside Area, California area CA679. Based on the results of the database search none of the soils present on site are classified as hydric soils. The Project site contains three (3) soils types (Figure 3 in Appendix A):

Arlington fine sandy loam (AoC). 2 to 8 percent slope. This soil is well-drained with a moderately low to moderately high capacity to transmit water. This soil consists of alluvium derived from granite, typically ranges in elevation from 400 to 2,000 feet amsl and is considered prime farmland if irrigated.

Arlington loam (ApB). 2 to 5 percent slopes. This soil is well-drained with a moderately low to moderately high capacity to transmit water. This soil consists of alluvium derived from granite, typically ranges in elevation from 400 to 2,000 feet amsl and is considered farmland of statewide importance.

Hanford coarse sandy loam (HcC), 2 to 8 percent slopes. This soil is well-drained with a high capacity to transmit water. This soil consists of alluvium derived from granite, typically ranges in elevation from 150 to 900 feet amsl and is considered prime farmland if irrigated.

3.1.2 JURISDICTIONAL WATERS

Aerial imagery of the site was examined and compared with the surrounding USGS 7.5-minute topographic quadrangle maps to identify drainage features within the survey area as indicated from topographic changes, blue-line features, or visible drainage patterns. The U.S. Fish and Wildlife Service National Wetland Inventory and Environmental Protection Agency (EPA) Water Program "My Waters" data layers were also reviewed to determine whether any hydrologic features and wetland areas had been documented within the vicinity of the site. Similarly, the Soil maps from the U.S. Department of Agriculture (USDA) - Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2018) were reviewed to identify the soil series on-site and to check if they have been identified regionally as hydric soils. Upstream and downstream connectivity of waterways (if present) was reviewed in the field, on aerial imagery, and topographic maps to determine jurisdictional status. One likely drainage feature was observed in the during this review.

3.1.3 HYDROLOGY AND HYDROLOGIC CONNECTIVITY

Hydrologically, the project site is located within Arlington Hydrologic Sub-Area (HSA 801.26) which comprises a 44,218-acre drainage area within the larger Middle Santa Ana River Hydrologic Area (Hydrologic Unit Code [HUC10] 1807020308) (CalTrans, 2020) (Figure 4 in Appendix A). The Middle Santa Ana River watershed in Woodcrest is bordered to the north by the Lytle Creek watershed, to the east by the Upper Santa Ana River and San Timoteo Wash watersheds, to the south by the Lower San Jacinto River and Temescal Wash watersheds, and to the west by the Chino Creek and the Lower Santa Ana River watersheds (Figure 4 in Appendix A).

3.1.4 MSHCP

Prior to the field visit the Riverside Conservation Authority's website and databases were searched. This includes the MSHCP plan itself and any relevant protocol survey requirements. The database also includes a mapping program that contains site-specific information related to criteria cell location, special survey areas for plants and animals, and vegetation mapping.

A summary of the MSHCP Conservation Goals and Policies as they relate to this Project is provided below in Table 1.

Table 1: MSHCP Conservation Goals for Project Area

Conservation Goals	**Within /Adjacent**	**Not Within /Adjacent**
Proposed Constrained Linkages: **None**		X
Core Areas: **None**		X
Linkages: **None**		X
Constrained Linkage:		X
Habitat Block:		X
Core: **None**		X
Criteria Cell**:**		X
Pre-existing conservation Area		X
Riparian/Riverine or Vernal Pool Habitat		X
Narrow Endemic Plant Survey Area		X
Urban/Wildlife Interface		X
Mammal Survey Area		X
Amphibian Survey Area		X
Burrowing Owl Survey Area	X	

3.1.5 RIVERSIDE-CORONA RESOURCE CONSERVATION DISTRICT

Site Assessment

In June of 2019, the Riverside-Corona Resource Conservation District (RCRCD) provided a site assessment for the Project site. The RCRCD provided a baseline site assessment at the Ponyhayvin Ranch in the Greenbelt area of the City of Riverside on June 26, 2019 in an effort to determine site use for agricultural

purposes and possible environmental benefits to the adjacent Woodcrest Arroyo, along with potential management actions aimed at habitat uplift and conservation.

Supplemental Site Assessment

In December 2019, the RCRCD also provided a supplemental site assessment. The supplemental site analysis was used to analyze the hydrologic activity within the Woodcrest Arroyo and determine if the hydrologic regime is still consistent with the historical data.

3.2 FIELD STUDY RESULTS

3.2.1 HABITAT

The habitat on-site consists of bare ground with residential buildings and horse structures (barns, corrals, stables, pens, etc.). The southwest edge of the parcel does contain a drainage feature that is mostly bare ground with a line of eucalyptus along the edges *Eucalyptus* spp.- *Ailanthus altissima – Robinin pseudoacacia* Woodland Semi-Natural Alliance). Table 1 in Appendix D contains a list of all plants found on-site. The site has been subject to historic human disturbances and showed signs of vegetation management. The site is bordered by established residences and commercial property. Surrounding land uses include undeveloped parcels, residential developments, and commercial developments.

3.2.2 WILDLIFE

Several birds and mammals were seen during the surveys. Species observed or otherwise detected on or in the vicinity of the project site during the surveys included; common raven (*Corvus corax*), Anna's hummingbird (*Calypte anna*), house sparrow (*Passer domesticus*), and great basin fence lizard (*Sceloporus occidentalis longipes*). A complete list of the species observed is found in Table 1 in Appendix D.

The project site is located within a developed area of the City of Riverside. The property is completely surrounded by residential and agriculture.

3.2.3 SPECIAL STATUS SPECIES

No State and/or federally listed threatened or endangered species or other sensitive species were observed on-site during surveys.

Designated Critical Habitat

The site is not located within or adjacent to any USFWS designated Critical Habitat. No further action is required.

Nesting Birds

The Project site and immediate surrounding areas do contain habitat suitable for nesting birds. Nesting bird surveys should be conducted prior to any construction activities taking place during the nesting season to avoid potentially taking any birds or active nests. In general, impacts to all bird species (common and special status) can be avoided by conducting work outside of the nesting season (generally March 15th to September 15th), and conducting a worker awareness training. However, if all work cannot be

conducted outside of the nesting season, a project-specific Nesting Bird Management Plan can be prepared to determine suitable buffers.

3.2.4 JURISDICTIONAL WATERS

Waters of the United States and Waters of the State

The USACE has the authority to permit the discharge of dredged or fill material in Waters of the U.S. under Section 404 CWA. While the Regional Water Quality Board has authority over the discharge of dredged or fill material in Waters of the State under Section 401 CWA as well as the Porter-Cologne Water Quality Control Act. The Project area was surveyed with 100 percent visual coverage and one drainage feature were observed along the southwest portion of the property. Table 2 below details the extent of the WOUS and WOS within this drainage feature. See Appendix E for the OHWM Datasheet and Figure 5 for jurisdictional limits.

Fish and Game Code Section 1602 - State Lake and/or Streambed

The CDFW asserts jurisdiction over any drainage feature that contains a definable bed and bank or associated riparian vegetation. The Project area was surveyed with 100 percent visual coverage and one drainage feature along the southwest portion of the property does contain CDFW jurisdiction. Table 2 below details the extent of CDFW jurisdiction within this drainage feature and Figure 6 for jurisdictional limits.

Table 2: Summary of Acreages of Jurisdictional Waters on site

Feature	OHWM (feet)	Bank-Full width (feet)	Length (feet)	Max Channel Depth (feet)	WoUS Corps jurisdiction (acres)	FGC 1600 CDFW jurisdiction + MSHCP Riparian Areas (acres)
Drainage A	6	10.5	437	8	0.11	0.15

3.2.5 WETLANDS

NWI maps did identify a drainage feature within the Project site as a Riverine system (Figure 6 in Appendix A). However, development within the upstream portion of the historical riverine area has diverted flows such that the hydrology is no longer sufficient to create a riverine system within the Project parcel. Additionally, none of the requirements for wetland designation (hydric vegetation, hydric soils, and/or wetland hydrology) were present on site. Appendix E contains the Arid West Wetland Data Sheet. As such, there are no wetlands currently present on site.

3.2.6 RIVERSIDE-CORONA RESOURCE CONSERVATION DISTRICT

Site Assessment

The June of 2019 site assessment determined that normal hydrologic functions of the arroyo are present in the form of carrying storm runoff and natural erosion and sedimentation processes. But beneficial habitat function and values could be improved through the following:

- Removal and control of nonnative plants and grasses/weeds.

- Removal of a majority of red gum eucalyptus.
- Planting of native trees and shrubs.
- Application of drip irrigation to establish any native plantings.
- Continued application of mulches and gravel to access roads and landscape areas of the property.

A copy of the site assessment is included in Appendix F.

Supplemental Site Assessment

The December 2019 supplemental site assessment determined that after additional analysis of the current water course elevations and conditions at the Pony Hayvin Ranch site in the greenbelt area in the City of Riverside, RCRCD staff determined that flood flows in the Woodcrest Arroyo (Goldenstar Creek) no longer follow the historic flow lines of the current geologic features that were originally mapped on USGS quads and that were used to determine the arroyo overlay maps for the City of Riverside. A copy of the supplemental site assessment is included in Appendix G

3.3 MSHCP Consistency Analysis

The MSHCP Conservation Area comprises a variety of existing and proposed Cores, Linkages, Constrained Linkages, and Noncontiguous Habitat Blocks (referred to herein generally as "Cores and Linkages"). The Cores and Linkages within the Lake Matthews/Woodcrest Area Plan include a small portion of Proposed Core 1; a portion of Proposed Extension of Existing Core 2; and a portion of Proposed Linkage 3.

3.3.1 Subunit Area/Cell Criteria

Pursuant to Section 3.3.12, Subunits are areas within an area plan that contain target conservation acreages along with a description of the planning species, biological issues, and considerations. The Project site is not located within a subunit area or cell criteria.

- *No further discussion on this subject is made in this analysis*

3.3.2 Narrow Endemic Plant Species

Pursuant to Section 6.1.3 of the MSHCP, focused surveys for narrow endemic plant species are required for properties within the mapped areas if the appropriate habitat is present. The survey area maps have been reviewed and assessed, and the proposed project is not located within a Narrow Endemic Plant Species Survey Area based on Figure 6-1 of the MSHCP.

- *No further discussion on this subject is made in this analysis*

3.3.3 Criteria Area Species

Based on Figures 6-2 (Criteria Area Species Survey Areas), 6-3 (Amphibian Species Survey Areas), 6-4 (BUOW Survey Areas), and 6-5 (Mammal Species Survey Areas of the MSHCP and the MSHCP Mapping Program, the site is located in an area where additional surveys are needed for BUOW. The project site is not within a survey area for any other criteria area or special status species. BUOW findings are discussed below.

- *BUOW: Pursuant to MSHCP Section 6.3.2, surveys shall be conducted within suitable habitat for BUOW, according to accepted protocols.*
    - *Survey Results: Based on the September 2020 field survey, the site does not contain suitable habitat for this species. The property is developed and is currently being maintained. No burrowing owls were observed during the site visit. No burrows of any kind were located within the property site. No portion of the project site showed any evidence of past or present BUOW activity. No feathers, whitewash, or castings were found. No suitable habitat exists on-site; therefore, no surveys are required.*

3.3.4 Riparian/Riverine Areas and Vernal Pools

The MSHCP describes the protection of Riparian/Riverine Areas and Vernal Pools within the MSHCP Plan Area as important to the conservation of certain amphibian, avian, fish, invertebrate, and plant species. The MSHCP describes guidelines to ensure that the biological functions and values for species inside the MSHCP Conservation Area are maintained, as outlined in Volume 1, Section 6.1.2.

Pursuant to Section 6.1.2 of the MSHCP, Riparian/Riverine areas are lands which contain habitat dominated by trees, shrubs, persistent emergent vegetation, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from nearby freshwater sources, or areas with freshwater flow during all or a portion of the year. Riverine habitat includes all wetlands and deepwater habitats contained in natural or artificial channels periodically or continuously containing flowing water or which forms a connecting link between the two bodies of standing water. Riverine habitat is bounded on the landward side by upland, by the channel bank (including natural and man-made levees), or by wetlands dominated by trees, shrubs, persistent emergents, mosses, or lichens. In braided streams, the system is bounded by the banks forming the outer limits of the depression within which the braiding occurs. Springs discharging into a channel are considered part of the riverine habitat. The term riparian is used to define the type of wildlife habitat found along the banks of a river, stream, lake or other body of water. Riparian habitats are ecologically diverse and can be found in many types of environments including grasslands, wetlands and forests.

The Project site does contain one area that meets the definition of Riparian/Riverine. The Riparian/Riverine area is the same limits as identified in Figure 6 in Appendix A. However, the Project does not propose any impacts to this area as the CUP is a permit for existing structures and the property owner does not have any plans for the developing the portion of the property that contains the drainage feature. Therefore, the Project is consistent with the MSHCP as it does not propose any impacts to any portion of Riverine/Riparian resources.

- *No further discussion on this subject is made in this analysis*

Pursuant to Section 6.1.2 of the MSHCP, Vernal Pools are seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. The determination that an area exhibits vernal pool characteristics should consider (1) the length of time the area exhibits upland and wetland characteristics, and (2) the manner in which the area fits into the overall ecological system

as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records.

The Project site does not contain the appropriate soils, vegetation, or hydrology to allow for vernal pools.

- *No further discussion on this subject is made in this analysis*

3.3.5 Urban/ Wildlands Interface

Section 6.1.4 of the MSHCP presents guidelines to minimize the indirect effects of projects in proximity to the MSCHP Conservation areas. This section provides mitigation measures for impacts associated with Drainage, Toxics, Lighting, Noise, Invasives, Barriers, and Grading/Land Development.

The Project site is not within or adjacent to any area the meets the definition of an urban/wildland interface. The site is fenced off and mostly surrounded by other fenced off developed parcels.

- *No further discussion on this subject is made in this analysis*

3.4 City of Riverside Municipal Code and Arroyos

As indicated in the City of Riverside Municipal Code (17.08.011-Arroyo), a portion of the Project site does occur within the Woodcrest Canyon Arroyo. The City Municipal Code defines an Arroyo as:

> Arroyo. "Arroyo" shall mean those areas shown within the limits of the Mockingbird Canyon, Woodcrest, Prenda, Alessandro, Tequesquite, or Springbrook Arroyos and associated tributaries as shown on Exhibits A-F of this Title. The limits of these arroyos and arroyo tributaries shall include all the land within the water course area, the adjacent slopes having an average natural slope of 30% or greater, and all other areas within the boundaries shown on Exhibits A-F of this Title.

We can conclude that the natural boundaries of the Arroyo on the Project site would be confined to the earthen channel on the southwestern edge of the site. The jurisdictional analysis that was completed in September 2020 delineated the “Bed and Bank” of the earthen channel and determined there is no evidence on-site that the ephemeral flows in the Arroyo extend beyond the existing banks. Figure 7 in Appendix A shows the jurisdictional boundary (current extent of Arroyo) as it relates to mapped Arroyo boundary in Title 7 of the City of Riverside Municipal Code.

The mapped boundaries of the Arroyo are different from the natural boundaries of the Arroyo. A review of historical aerials dating back to 1948, shows that the Arroyo alignment is largely the same as the jurisdictional boundary mapped in September 2020. The likely reason for this is development within the surrounding area has altered the upstream flows of the Arroyo. As we can see in Figures 8 through 11, the jurisdictional line (current extent of Arroyo) is nearly identical to the Arroyo alignment. Another contributing factor to the difference in previously mapped Arroyo is that the Project site has been subject to different agricultural and residential uses over the last 74 years. Figures 8 through 11 show the historical uses as agricultural fields and residential uses.

With the above definition, the historical imagery, RCRCD reports, and the mapping conducted in 2020, we can determine that the proposed Project will have no impact on the mapped Arroyo as it can be seen that

the natural boundaries of the Arroyo does not extend beyond the earthen channel found on-site. A conclusion shared by the RCRCD site assessments.

SECTION 4.0 - CONCLUSIONS AND RECOMMENDATIONS

Based on the literature review and personal observations made in the immediate vicinity, no State and/or federally listed threatened or endangered species are documented/or expected to occur within the Project site. No other sensitive species were observed within the project area or buffer area.

Jurisdictional Features

There are one drainage feature that meet the definitions of Section 1600 of the State of California Fish and Game Code (FGC) under the jurisdiction of the CDFW, Section 401 ("Waters of the State") of the Clean Water Act (CWA) under the jurisdiction of the Regional Water Quality Control Board (RWQCB), or "Waters of the United States" (WoUS) as defined by Section 404 of the CWA under the jurisdiction of the U.S. Army Corps of Engineers (Corps) within the subject parcel. However, the Project is for a Conditional Use Permit and Grading Exception from the City to allow the property owner to maintain the current buildings on the property. The Conditional Use Permit and Grading Exception does not authorize any development of the drainage feature, nor does the property owner have any plans for disturbing or developing that portion of the property. Therefore, no permit or agreement from any regulatory agency will be required.

Riverside-Corona Resource Conservation District

After review of the Project site on two separate occasions, the RCRCD determined that the hydrologic regimes are that were used historically present on USGS Maps and used to delineate the Woodcrest Arroyo, are no longer present. The RCRCD came to the conclusion that the natural boundaries of the Arroyo are currently within the limits of the channel along the southwestern edge of the parcel. Therefore, the proposed Project will have no effect on the mapped Arroyo.

Western Riverside MSHCP

The site is not mapped within a criteria cell or subunit. The Project is also consistent with the MSHCP policies found in Section 6 which include Riparian/Riverine Areas/ Vernal Pools; Narrow Endemic Plant Species; Urban/Wildlands Interface; and Surveys for Special Status Species. The site is not located within an area mapped for Narrow Endemic or Criteria Area Plant Species, Special Status Species, Vernal Pools, and Urban/Wildlife Interface.

Although the Project area does contain one drainage feature that meets the definition of Riparian/Riverine, the Project does not propose any impacts to this area. Therefore, the Project is consistent with MSCHP policies and conditions. The site does fall within a survey area under the MSHCP for the special status species BUOW. However, no suitable habitat exists within the Project area. Therefore, no surveys are required for BUOW.

The proposed Project will not have any effect on the current habitat or any drainage features. The Project is also consistent with the MSHCP as it does not conflict with any of the goals as stated in the MSHCP.

Woodcrest Arroyo

The Project will have no effect on the Woodcrest Arroyo. As shown above, the historical imagery, the definition of an Arroyo, and the mapping conducted in 2020, we can determine that the previously mapped Arroyo no longer extends beyond the earthen channel found on-site. Therefore, the proposed Project will have no impacts on the Woodcrest Arroyo.

Nesting Birds

Since there is some habitat within the project site and adjacent area that is suitable for nesting birds in general, the following mitigation measure should be implemented.

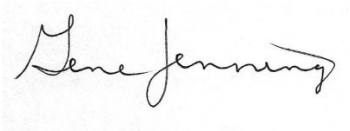
> Nesting bird nesting season generally extends from February 1 through September 15 in southern California and specifically, March 15 through August 31 for migratory passerine birds. To avoid impacts to nesting birds (common and special status) during the nesting season, a qualified Avian Biologist will conduct pre-construction Nesting Bird Surveys (NBS) prior to project-related disturbance to nestable vegetation to identify any active nests. If no active nests are found, no further action will be required. If an active nest is found, the biologist will set appropriate no-work buffers around the nest which will be based upon the nesting species, its sensitivity to disturbance, nesting stage, and expected types, intensity, and duration of the disturbance. The nests and buffer zones shall be field-checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.

Certification

I hereby certify that the statements furnished herein, and in the attached exhibits present data and information required for this analysis to the best of my ability, and the facts, statements, and information presented are true and correct to the best of my knowledge and belief. This report was prepared in accordance with professional requirements and standards. Fieldwork conducted for this assessment was performed by me. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project proponent and that I have no financial interest in the project.

Please do not hesitate to contact me at 909-534-4547 should you have any questions or require further information.

Sincerely,



Gene Jennings
Principal/Regulatory Specialist

Appendices:

- Appendix A – Figures
- Appendix B – Site Photos
- Appendix C – Regulatory Framework
- Appendix D – Tables
- Appendix E – Datasheets
- Appendix F – RCRCD Site Assessment
- Appendix G – RCRCD Supplemental Site Assessment

Section 5 – REFERENCES

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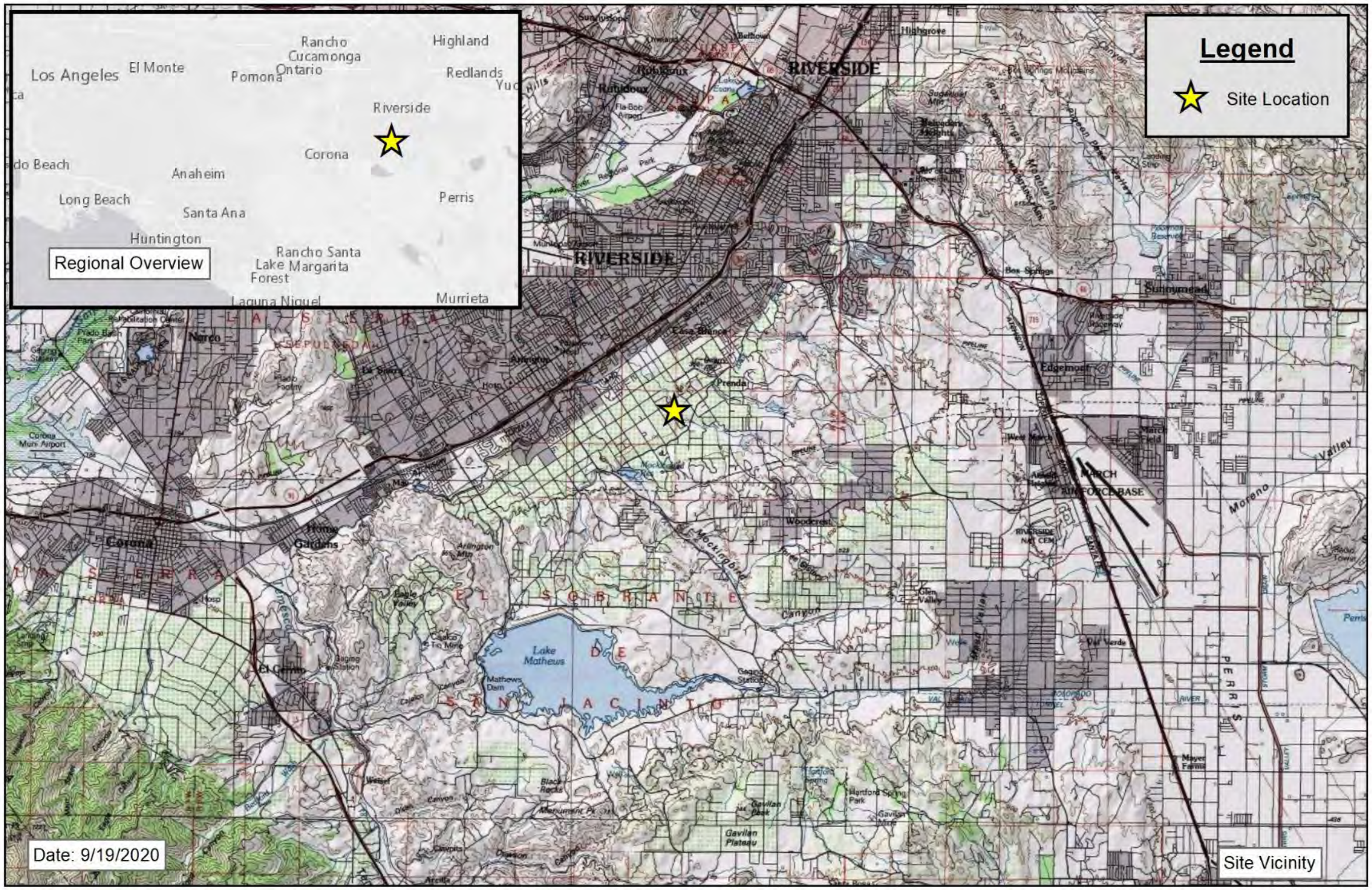
Appendix A - Figures



CUP for APN 237-130-023

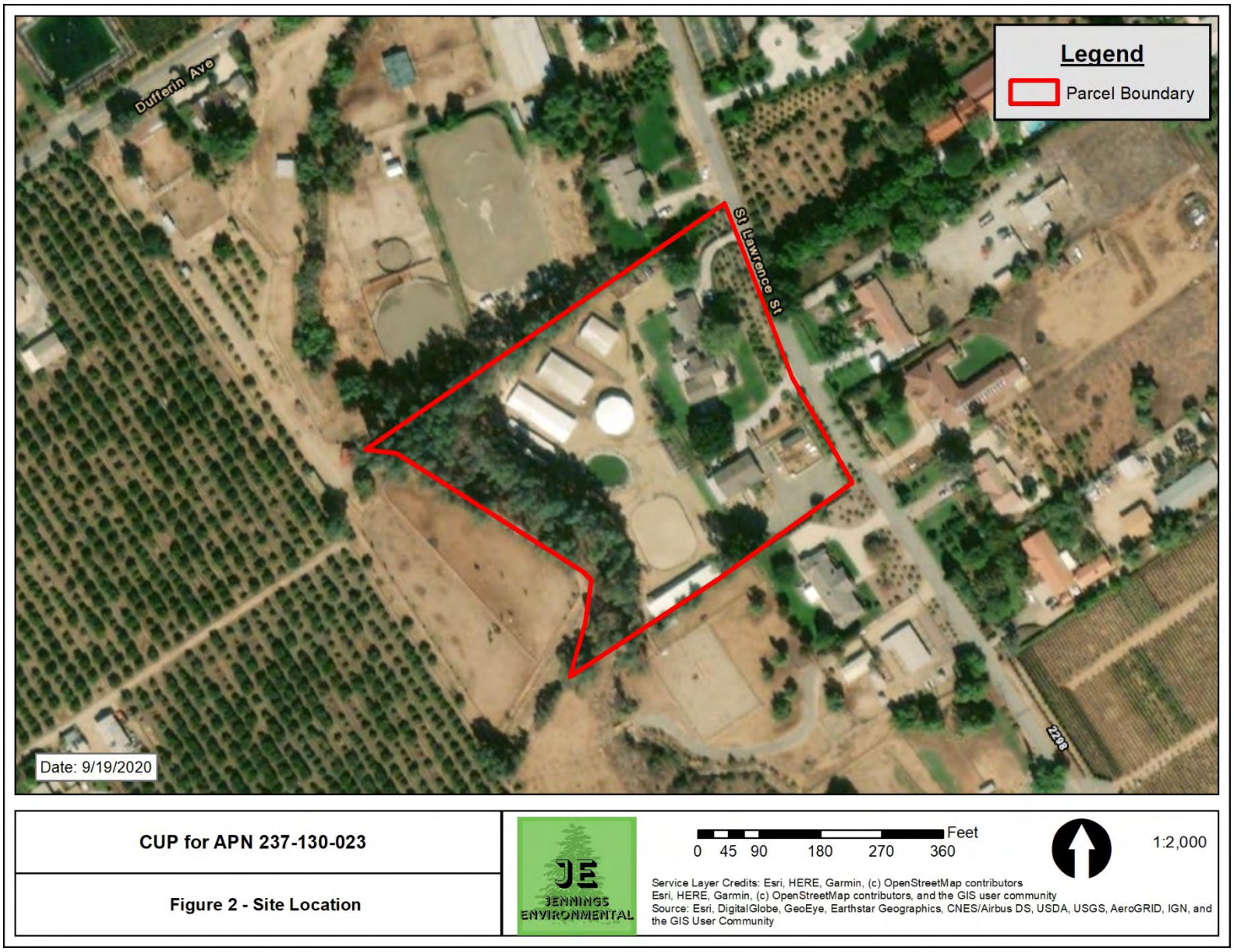
Figure 1 - Regional Overview and Site Vicinity

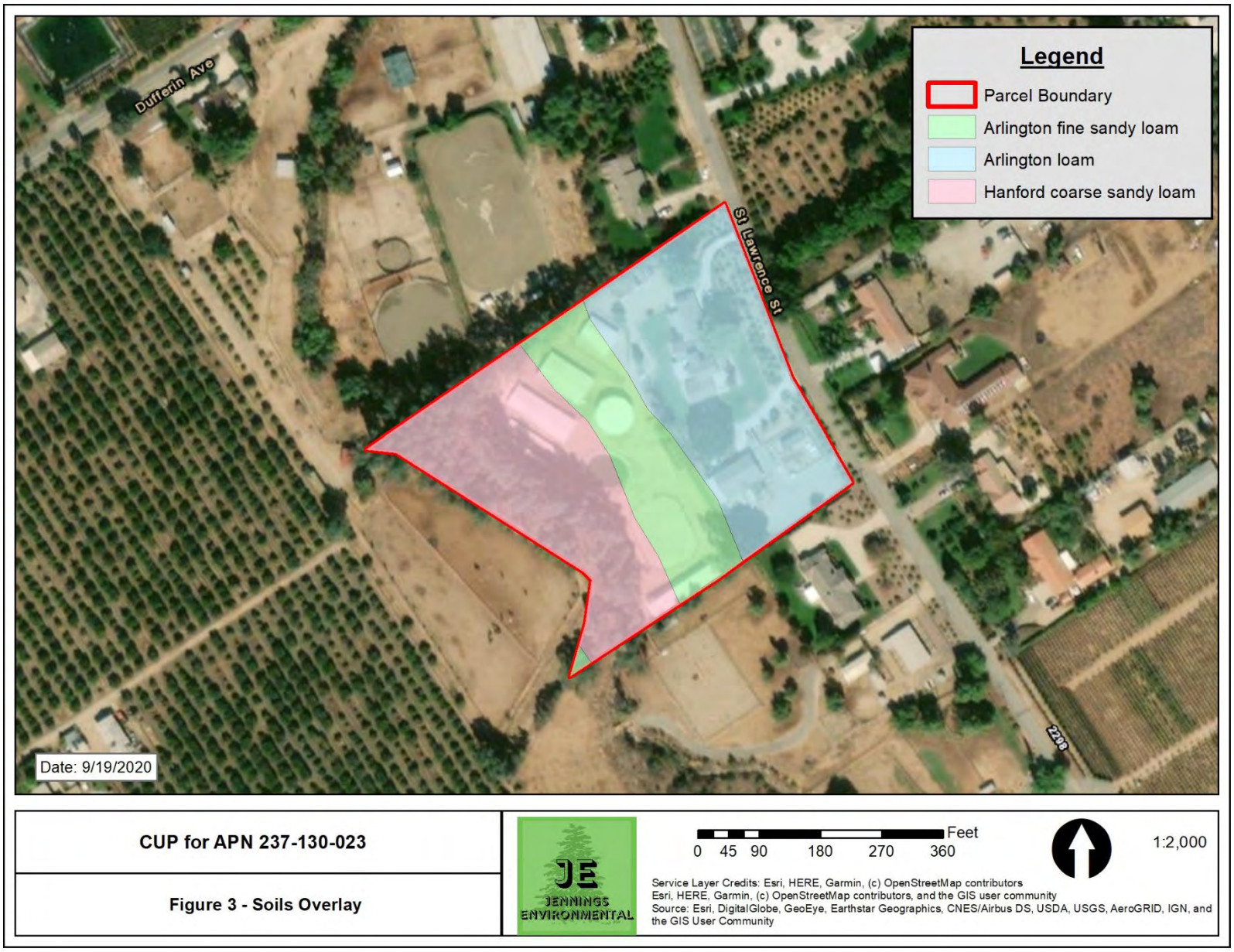
JE
JENNINGS ENVIRONMENTAL

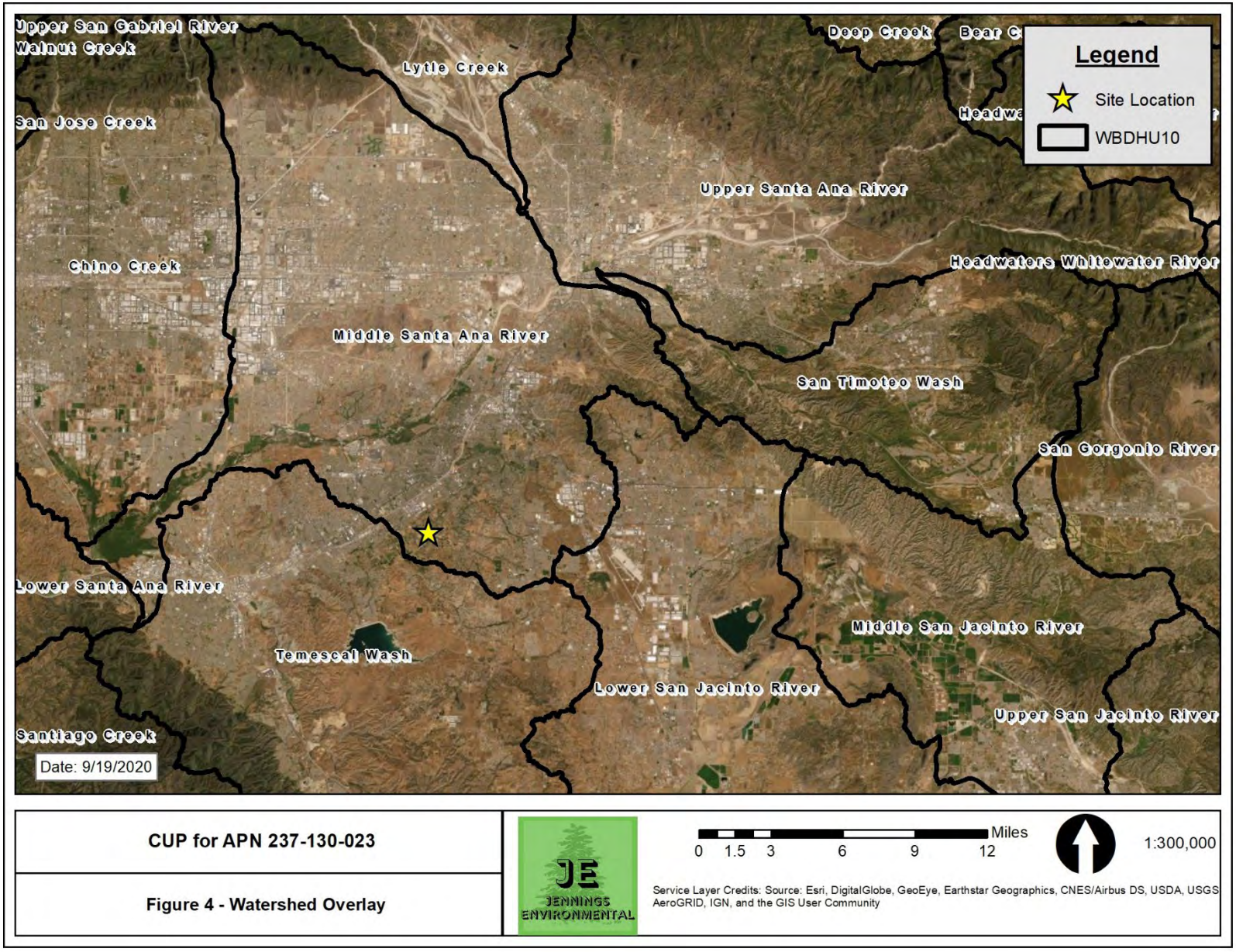
Miles
0 0.5 1 2 3 4

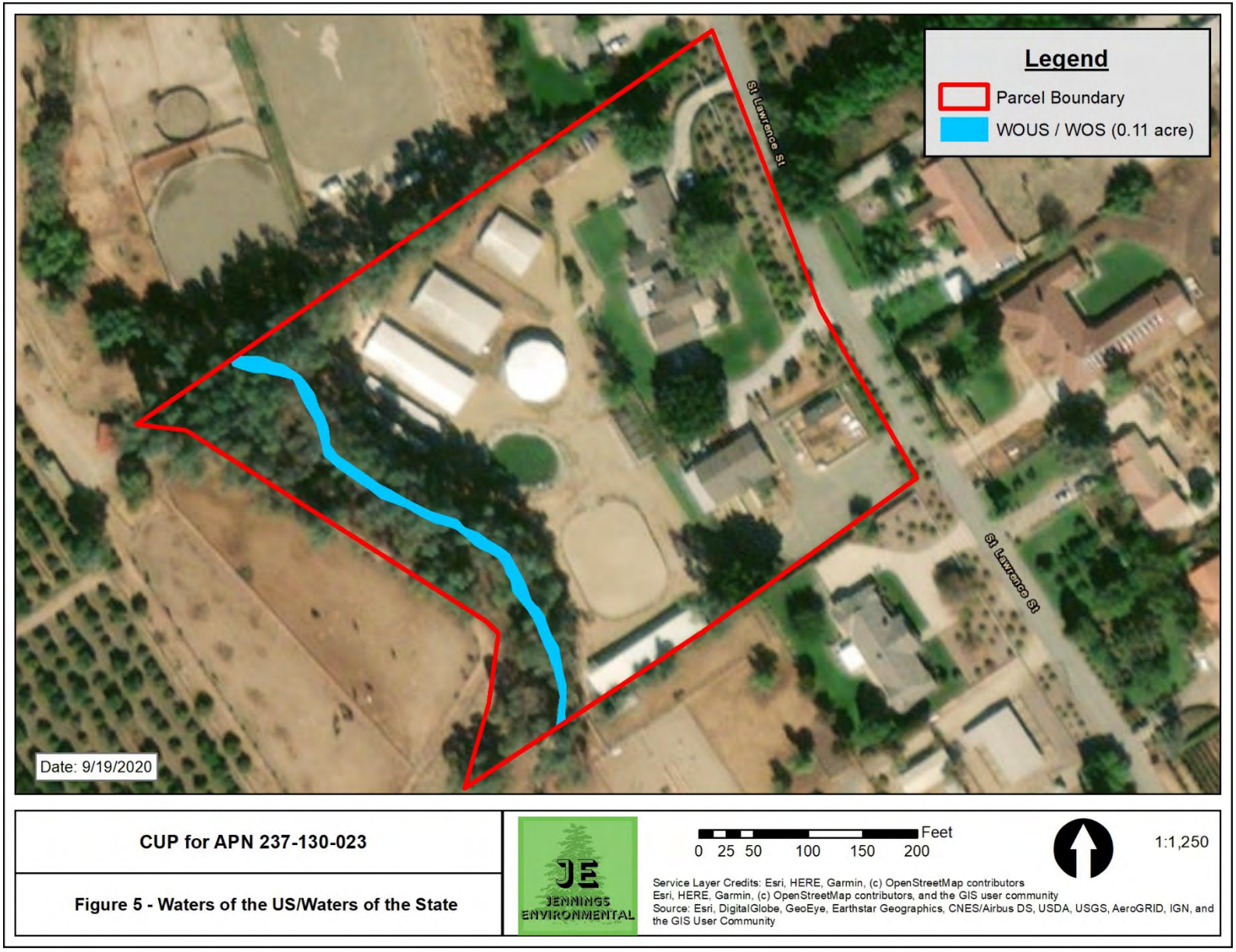
1:150,000

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Copyright:© 2013 National Geographic Society, i-cubed


Legend
Parcel Boundary
Dufferin Ave
St Lawrence St
Date: 9/19/2020
CUP for APN 237-130-023
Figure 2 - Site Location
JE
JENNINGS ENVIRONMENTAL
Feet
0 45 90 180 270 360
1:2,000
Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community


Legend
Parcel Boundary
Arlington fine sandy loam
Arlington loam
Hanford coarse sandy loam
Dufferin Ave
St Lawrence St
2203
Date: 9/19/2020
CUP for APN 237-130-023
Figure 3 - Soils Overlay
JE
JENNINGS ENVIRONMENTAL
0 45 90 180 270 360
Feet
1:2,000
Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community


Upper San Gabriel River
Walnut Creek
Lytle Creek
Deep Creek
San Jose Creek
Upper Santa Ana River
Chino Creek
Headwaters Whitewater River
Middle Santa Ana River
San Timoteo Wash
San Gorgonio River
Lower Santa Ana River
Middle San Jacinto River
Temescal Wash
Lower San Jacinto River
Upper San Jacinto River
Santiago Creek
Date: 9/19/2020
Legend
Site Location
WBDHU10
CUP for APN 237-130-023
Figure 4 - Watershed Overlay
JE
JENNINGS ENVIRONMENTAL
0 1.5 3 6 9 12
Miles
1:300,000
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community


Legend
Parcel Boundary
WOUS / WOS (0.11 acre)
St Lawrence St
St Lawrence St
Date: 9/19/2020
CUP for APN 237-130-023
Figure 5 - Waters of the US/Waters of the State
JE
JENNINGS ENVIRONMENTAL
Feet
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1:1,250
Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
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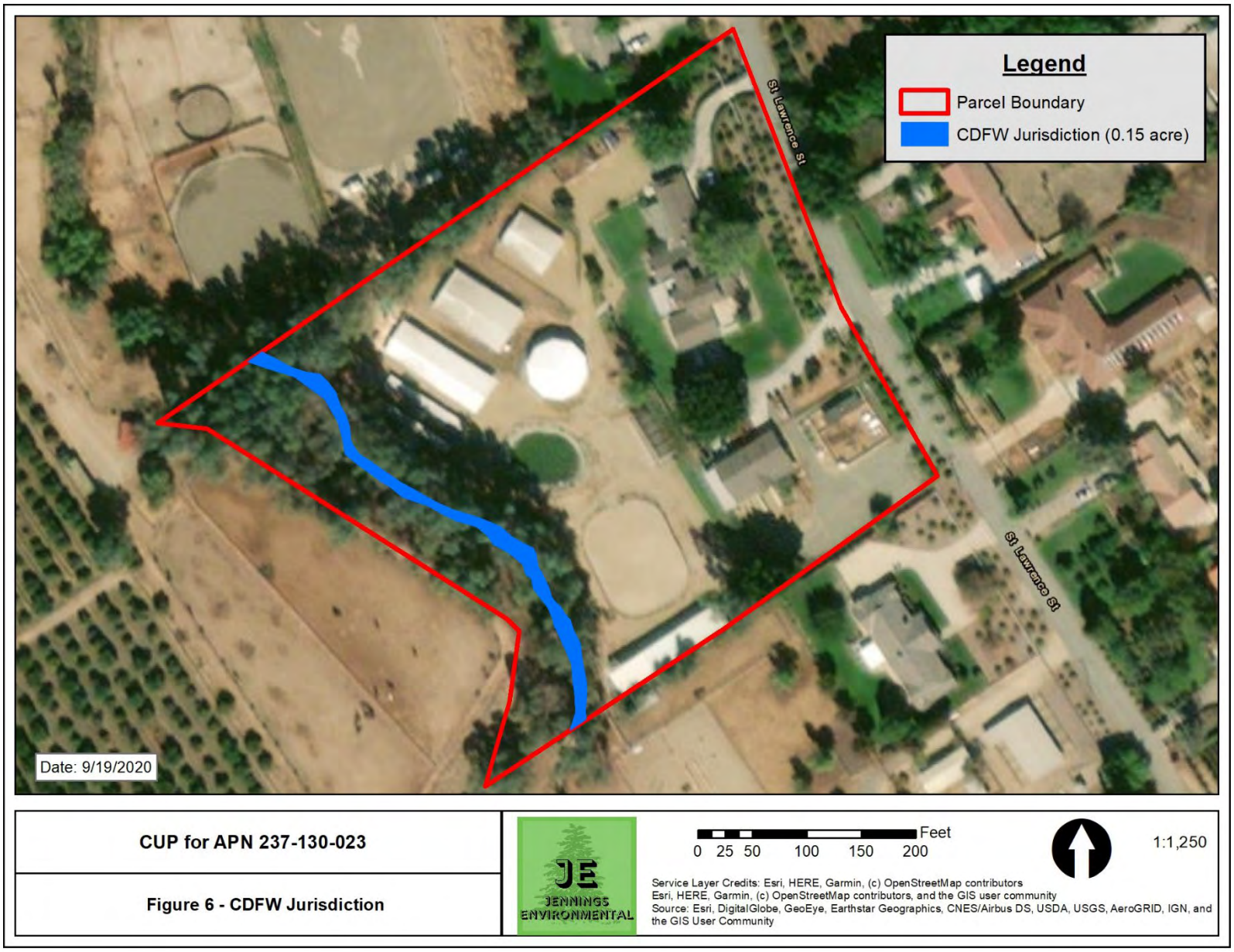
Legend
Parcel Boundary
CDFW Jurisdiction (0.15 acre)
St Lawrence St
St Lawrence St
Date: 9/19/2020
CUP for APN 237-130-023
Figure 6 - CDFW Jurisdiction
JE
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Feet
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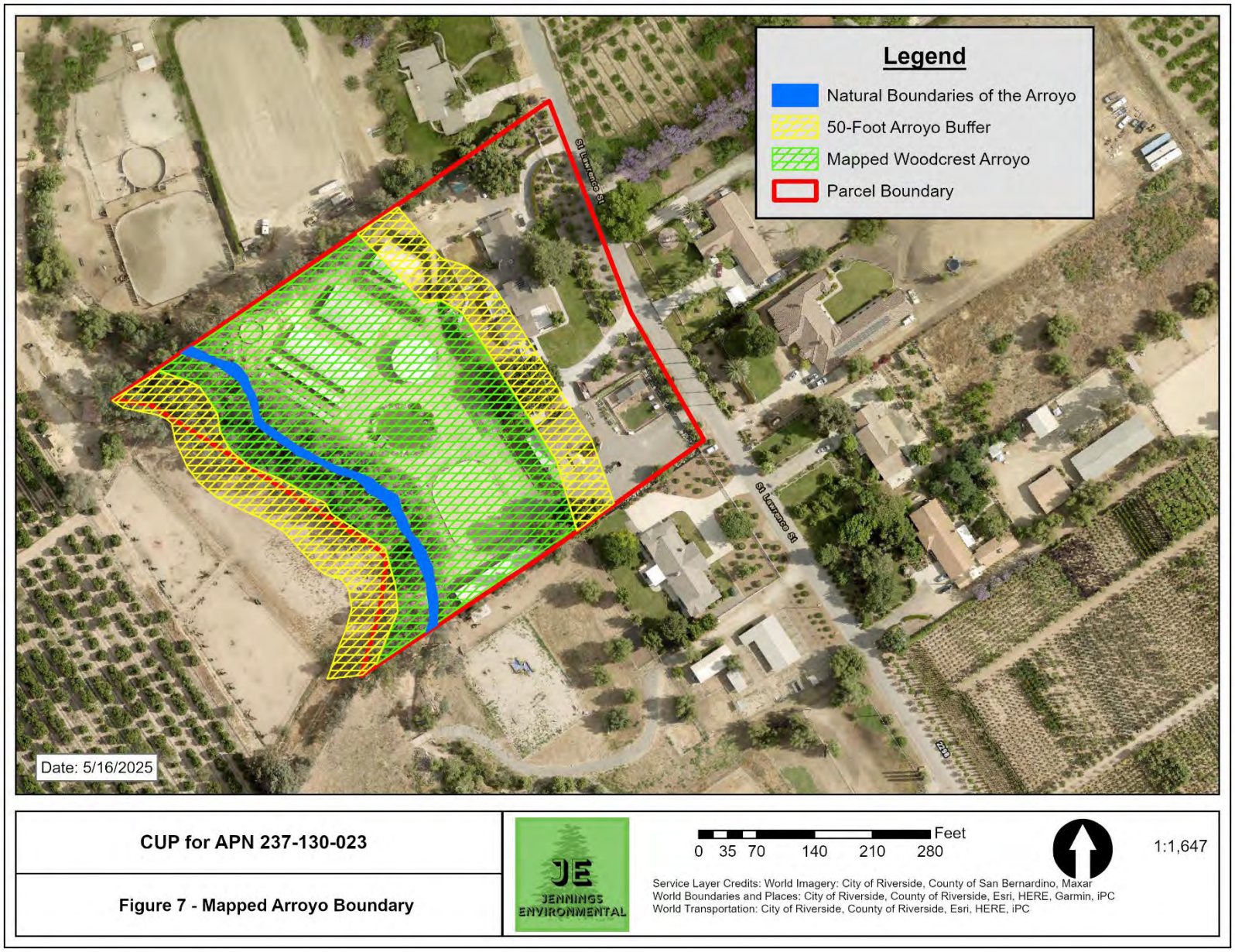
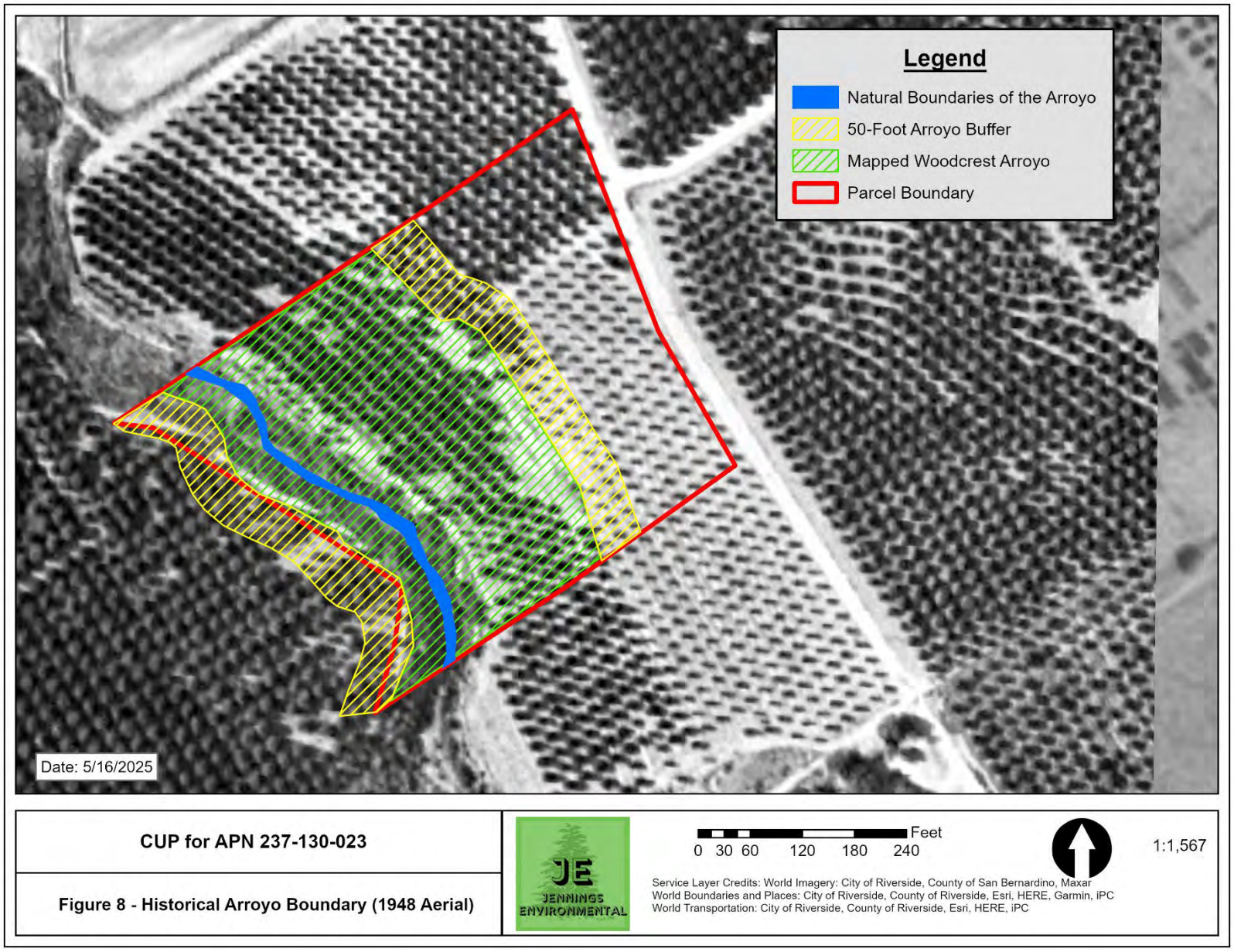
Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community


Legend
Natural Boundaries of the Arroyo
50-Foot Arroyo Buffer
Mapped Woodcrest Arroyo
Parcel Boundary
St Lawrence St
St Lawrence St
Date: 5/16/2025
CUP for APN 237-130-023
Figure 7 - Mapped Arroyo Boundary
JE
JENNINGS ENVIRONMENTAL
0 35 70 140 210 280
Feet
1:1,647
Service Layer Credits: World Imagery: City of Riverside, County of San Bernardino, Maxar
World Boundaries and Places: City of Riverside, County of Riverside, Esri, HERE, Garmin, iPC
World Transportation: City of Riverside, County of Riverside, Esri, HERE, iPC


Legend
Natural Boundaries of the Arroyo
50-Foot Arroyo Buffer
Mapped Woodcrest Arroyo
Parcel Boundary
Date: 5/16/2025
CUP for APN 237-130-023
Figure 8 - Historical Arroyo Boundary (1948 Aerial)
JE
JENNINGS ENVIRONMENTAL
Feet
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1:1,567
Service Layer Credits: World Imagery: City of Riverside, County of San Bernardino, Maxar
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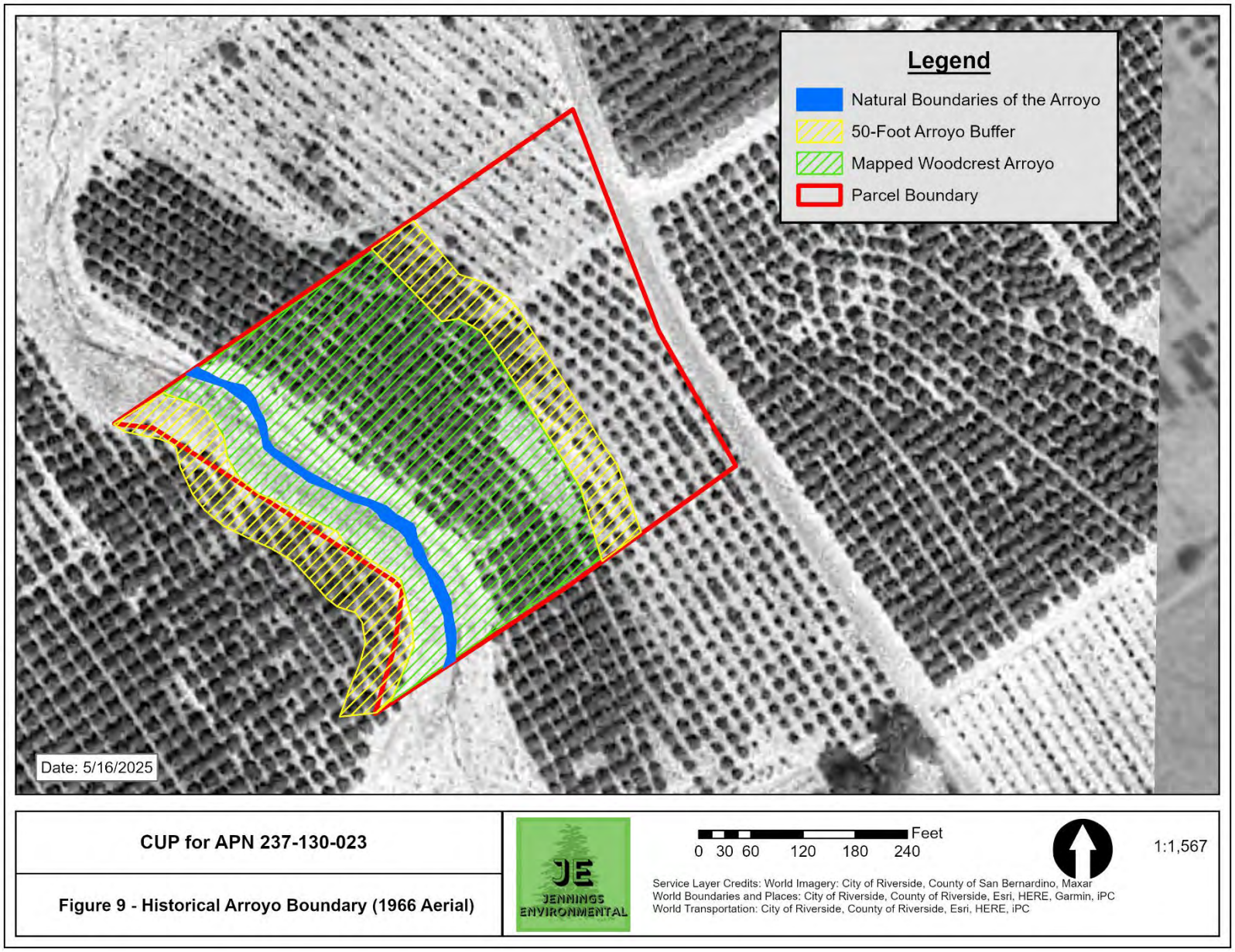
World Transportation: City of Riverside, County of Riverside, Esri, HERE, iPC


Legend
Natural Boundaries of the Arroyo
50-Foot Arroyo Buffer
Mapped Woodcrest Arroyo
Parcel Boundary
Date: 5/16/2025
CUP for APN 237-130-023
Figure 9 - Historical Arroyo Boundary (1966 Aerial)
JE
JENNINGS ENVIRONMENTAL
Feet
0 30 60 120 180 240
1:1,567
Service Layer Credits: World Imagery: City of Riverside, County of San Bernardino, Maxar
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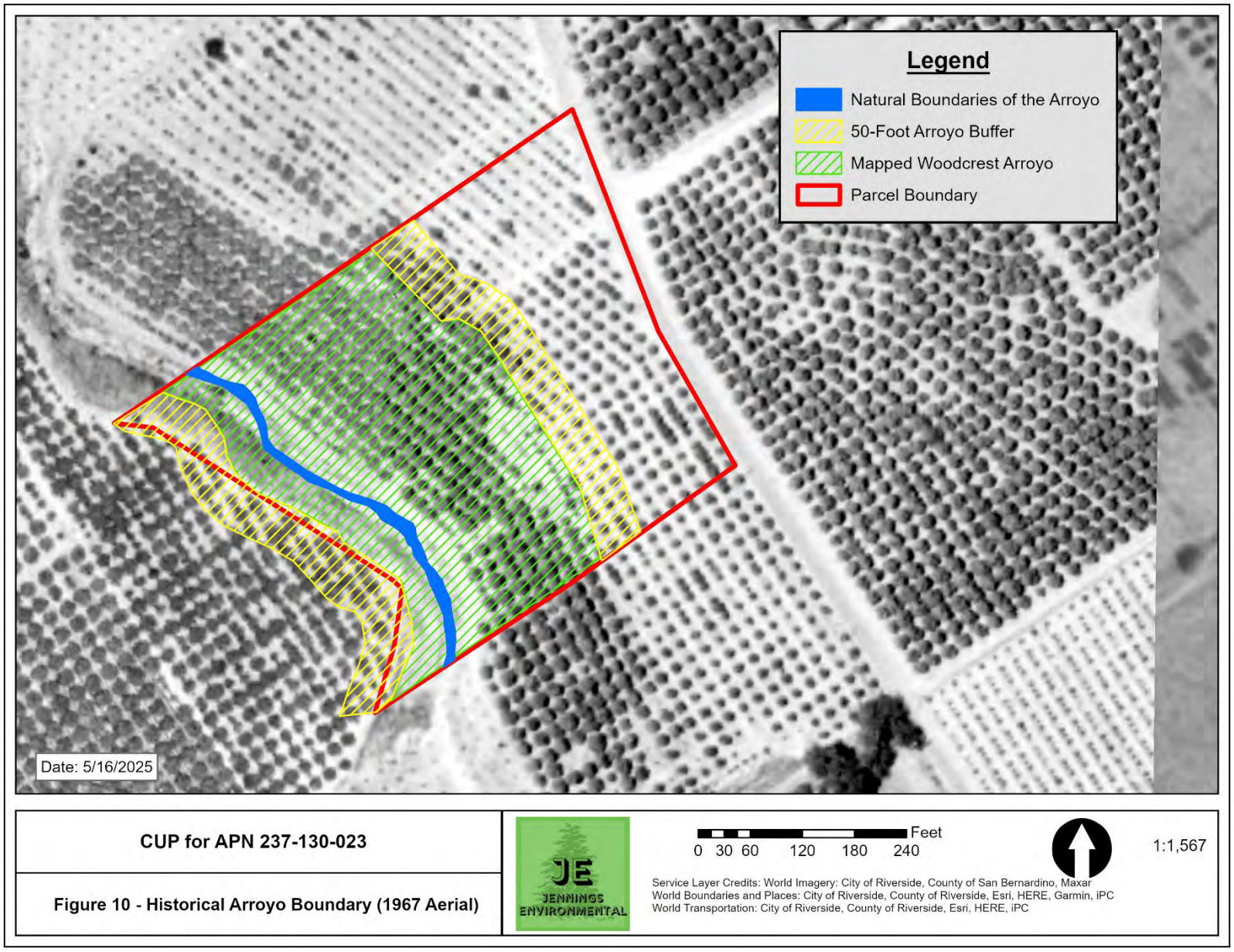
Legend
Natural Boundaries of the Arroyo
50-Foot Arroyo Buffer
Mapped Woodcrest Arroyo
Parcel Boundary
Date: 5/16/2025
CUP for APN 237-130-023
Figure 10 - Historical Arroyo Boundary (1967 Aerial)
JE
JENNINGS ENVIRONMENTAL
Feet
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1:1,567
Service Layer Credits: World Imagery: City of Riverside, County of San Bernardino, Maxar
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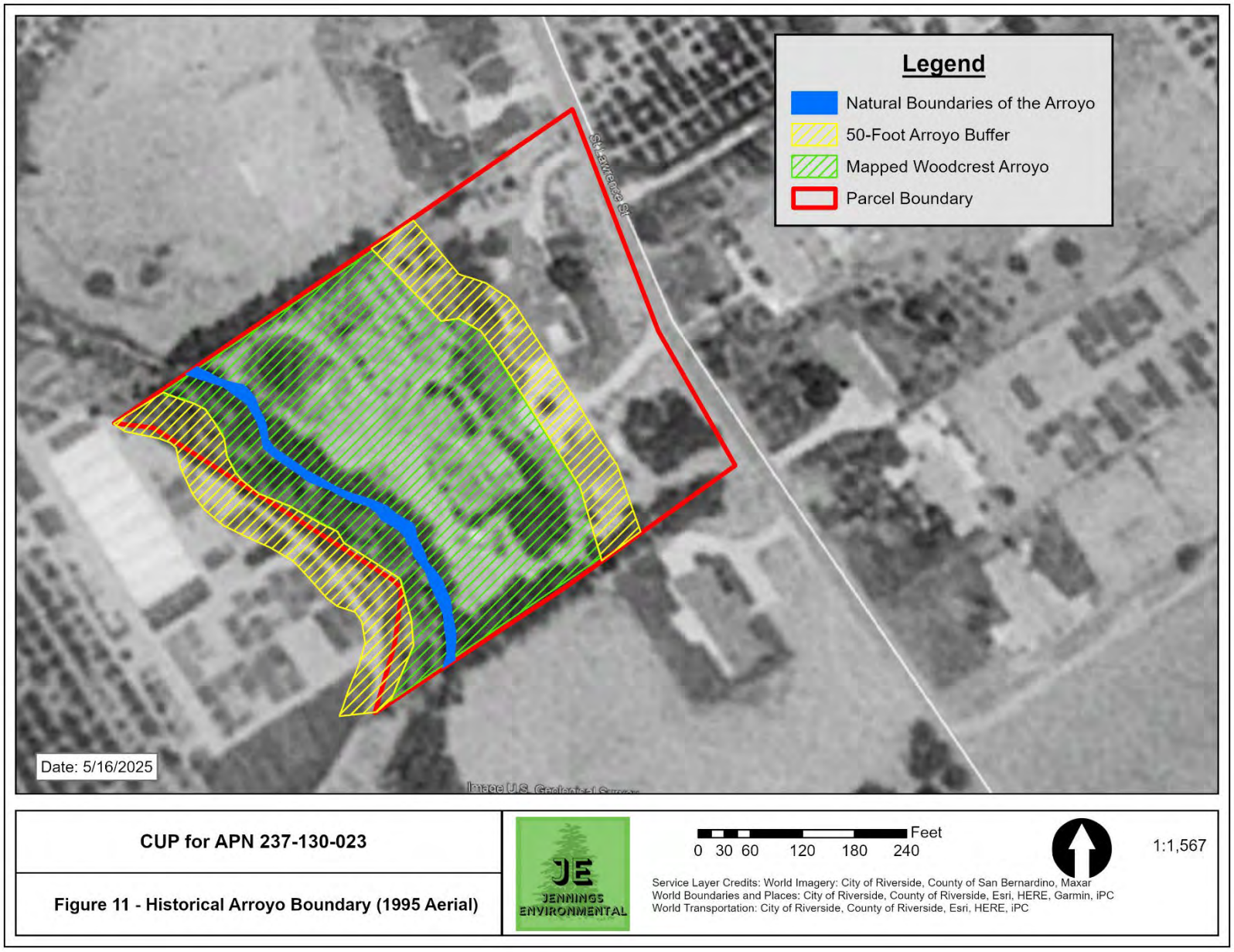
World Transportation: City of Riverside, County of Riverside, Esri, HERE, iPC


Legend
Natural Boundaries of the Arroyo
50-Foot Arroyo Buffer
Mapped Woodcrest Arroyo
Parcel Boundary
St Lawrence St
Date: 5/16/2025
Image U.S. Geological Survey
CUP for APN 237-130-023
Figure 11 - Historical Arroyo Boundary (1995 Aerial)
JE
JENNINGS ENVIRONMENTAL
Feet
0 30 60 120 180 240
1:1,567
Service Layer Credits: World Imagery: City of Riverside, County of San Bernardino, Maxar
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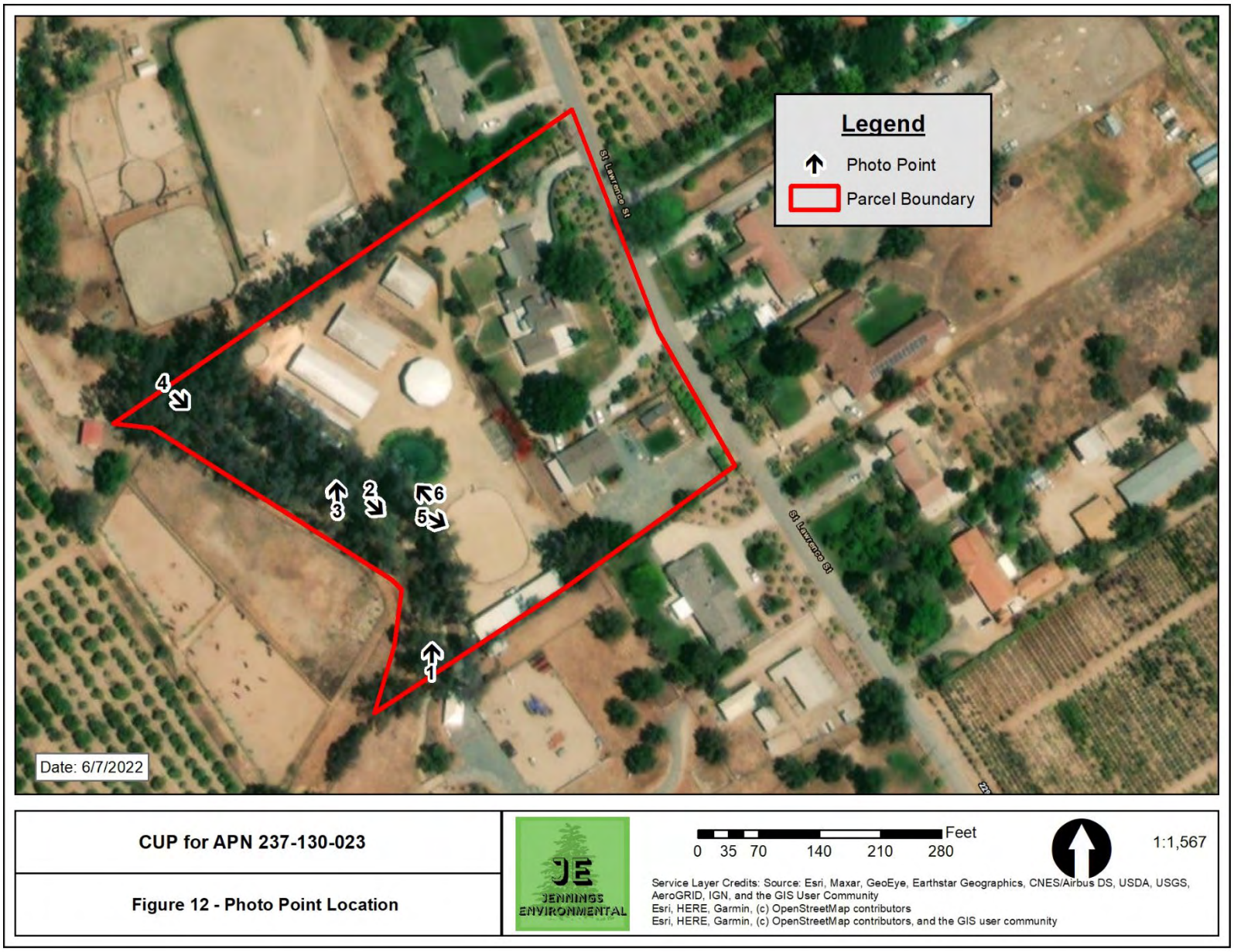
World Transportation: City of Riverside, County of Riverside, Esri, HERE, iPC


Legend
Photo Point
Parcel Boundary
St Lawrence St
St Lawrence St
1
2
3
4
5
6
Date: 6/7/2022
CUP for APN 237-130-023
Figure 12 - Photo Point Location
JE
JENNINGS ENVIRONMENTAL
Feet
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1:1,567
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors
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Appendix B - Photos

	Photo 1 – Eastern edge of parcel showing drainage feature A, downstream.
	Photo 2 – Central portion of drainage feature A and extent of Arroyo, showing lack of veg and high rock layer.

	Photo 3 – Soil pit dug near center of drainage A. Now hydric soils or hydrology.
	Photo 4 – Western edge of drainage feature A and extent of Arroyo. Facing upstream.

	Photo 5 – Showing barn and horse pens near southern portion of property.
	Photo 6 – Southwestern portion of the parcel showing stables, corals, and pond.

Appendix C – Regulatory Framework

1.1 FEDERAL JURISDICTION

1.1.1 United States Army Corps of Engineers

Activities within inland streams, wetlands, and riparian areas in California are regulated by agencies at the federal, state, and regional levels. At the federal level, the U.S. Army Corps of Engineers (USACE) Regulatory Program regulates activities within wetlands and waters of the US pursuant to Section 404 of the Federal Clean Water Act (CWA).

At the state level, the California Department of Fish and Wildlife (CDFW) regulates activities within the bed, bank, and associated habitat of a stream under the Fish and Game Code §§ 1600–1616. The California State Water Resources Board (SWRB) delegates authority at the regional level to Regional Water Quality Control Boards (RWQCB) that are responsible for regulating discharge into waters of the US under Section 401 of the federal CWA and waters of the State under the California Porter-Cologne Water Quality Act.

The CWA was implemented to maintain and restore the chemical, physical, and biological integrity of the Waters of the United States (33 Code of Federal Regulations [CFR] Part 328 Section 328.3). "Waters of the US" are defined as follows:

> (a) *Jurisdictional waters.* For purposes of the Clean Water Act, 33 U.S.C. 1251 *et seq.* and its implementing regulations, subject to the exclusions in paragraph (b) of this section, the term ''waters of the United States'' means:
>
> (1) The 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;
>
> (2) Tributaries;
>
> (3) Lakes and ponds, and impoundments of jurisdictional waters; and
>
> (4) Adjacent wetlands.
>
> (b) *Non-jurisdictional waters.* The following are not ''waters of the United States'':
>
> (1) Waters or water features that are not identified in paragraph (a)(1), (2), (3), or (4) of this section;
>
> (2) Groundwater, including groundwater drained through subsurface drainage systems;
>
> (3) Ephemeral features, including ephemeral streams, swales, gullies, rills, and pools;
>
> (4) Diffuse stormwater run-off and directional sheet flow over upland;
>
> (5) Ditches that are not waters identified in paragraph (a)(1) or (2) of this section, and those portions of ditches constructed in waters identified in paragraph (a)(4) of this section that do not satisfy the conditions of paragraph (c)(1) of this section;
>
> (6) Prior converted cropland;
>
> (7) Artificially irrigated areas, including fields flooded for agricultural production, that would revert to upland should application of irrigation water to that area cease;Artificial lakes and ponds, including water storage reservoirs and farm, irrigation, stock watering, and log cleaning ponds, constructed or excavated in upland or in nonjurisdictional waters, so long as those artificial lakes and ponds

are not impoundments of jurisdictional waters that meet the conditions of paragraph (c)(6) of this section;

(8) Water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in nonjurisdictional waters for the purpose of obtaining fill, sand, or gravel;

(9) Stormwater control features constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater runoff;

(10) Groundwater recharge, water reuse, and wastewater recycling structures, including detention, retention, and infiltration basins and ponds, constructed or excavated in upland or in non-jurisdictional waters; and

(11) Waste treatment systems.

(c) *Definitions.* In this section, the following definitions apply:

(1) *Adjacent wetlands*. The term *adjacent wetlands* means wetlands that:

(i) Abut, meaning to touch at least at one point or side of, a water identified in paragraph (a)(1), (2), or (3) of this section;

(ii) Are inundated by flooding from a water identified in paragraph (a)(1), (2), or (3) of this section in a typical year;

(iii) Are physically separated from a water identified in paragraph (a)(1), (2), or (3) of this section only by a natural berm, bank, dune, or similar natural feature; or

(iv) Are physically separated from a water identified in paragraph (a)(1), (2), or (3) of this section only by an artificial dike, barrier, or similar artificial structure so long as that structure allows for a direct hydrologic surface connection between the wetlands and the water identified in paragraph (a)(1), (2), or (3) of this section in a typical year, such as through a culvert, flood or tide gate, pump, or similar artificial feature. An adjacent wetland is jurisdictional in its entirety when a road or similar artificial structure divides the wetland, as long as the structure allows for a direct hydrologic surface connection through or over that structure in a typical year.

(2) *Ditch*. The term *ditch* means a constructed or excavated channel used to convey water.

(3) *Ephemeral*. The term *ephemeral* means surface water flowing or pooling only in direct response to precipitation (e.g., rain or snow fall).

(4) *High tide line*. The term *high tide line* means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of

water against a coast by strong winds, such as those accompanying a hurricane or other intense storm.

(5) *Intermittent*. The term *intermittent* means surface water flowing continuously during certain times of the year and more than in direct response to precipitation (e.g., seasonally when the groundwater table is elevated or when snowpack melts).

(6) *Lakes and ponds, and impoundments of jurisdictional waters*. The term *lakes and ponds, and impoundments of jurisdictional water*s means standing bodies of open water that contribute surface water flow to a water identified in paragraph (a)(1) of this section in a typical year either directly or through one or more waters identified in paragraph (a)(2), (3), or (4) of this section. A lake, pond, or impoundment of a jurisdictional water does not lose its jurisdictional status if it contributes surface water flow to a downstream jurisdictional water in a typical year through a channelized non-jurisdictional surface water feature, through a culvert, dike, spillway, or similar artificial feature, or through a debris pile, boulder field, or similar natural feature. A lake or pond, or impoundment of a jurisdictional water Start Printed Page 22339is also jurisdictional if it is inundated by flooding from a water identified in paragraph (a)(1), (2), or (3) of this section in a typical year.

(7) *Ordinary high water mark*. The term *ordinary high water mark* means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

(8) *Perennial*. The term *perennial* means surface water flowing continuously year-round.

(9) *Prior converted cropland*. The term prior *converted cropland* means any area that, prior to December 23, 1985, was drained or otherwise manipulated for the purpose, or having the effect, of making production of an agricultural product possible. EPA and the Corps will recognize designations of prior converted cropland made by the Secretary of Agriculture. An area is no longer considered prior converted cropland for purposes of the Clean Water Act when the area is abandoned and has reverted to wetlands, as defined in paragraph (c)(16) of this section. Abandonment occurs when prior converted cropland is not used for, or in support of, agricultural purposes at least once in the immediately preceding five years. For the purposes of the Clean Water Act, the EPA Administrator shall have the final authority to determine whether prior converted cropland has been abandoned.

(10) *Snowpack*. The term *snowpack* means layers of snow that accumulate over extended periods of time in certain geographic regions or at high elevation (e.g., in northern climes or mountainous regions).

(11) *Tidal waters and waters subject to the ebb and flow of the tide*. The terms *tidal waters and waters subject to the ebb and flow of the tide* mean those

waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters and waters subject to the ebb and flow of the tide end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.

(12) *Tributary*. The term *tributary* means a river, stream, or similar naturally occurring surface water channel that contributes surface water flow to a water identified in paragraph (a)(1) of this section in a typical year either directly or through one or more waters identified in paragraph (a)(2), (3), or (4) of this section. A tributary must be perennial or intermittent in a typical year. The alteration or relocation of a tributary does not modify its jurisdictional status as long as it continues to satisfy the flow conditions of this definition. A tributary does not lose its jurisdictional status if it contributes surface water flow to a downstream jurisdictional water in a typical year through a channelized non-jurisdictional surface water feature, through a subterranean river, through a culvert, dam, tunnel, or similar artificial feature, or through a debris pile, boulder field, or similar natural feature. The term tributary includes a ditch that either relocates a tributary, is constructed in a tributary, or is constructed in an adjacent wetland as long as the ditch satisfies the flow conditions of this definition.

(13) *Typical year*. The term *typical year* means when precipitation and other climatic variables are within the normal periodic range (e.g., seasonally, annually) for the geographic area of the applicable aquatic resource based on a rolling thirty-year period.

(14) *Upland*. The term *upland* means any land area that under normal circumstances does not satisfy all three wetland factors (i.e., hydrology, hydrophytic vegetation, hydric soils) identified in paragraph (c)(16) of this section, and does not lie below the ordinary high water mark or the high tide line of a jurisdictional water.

(15) *Waste treatment system*. The term *waste treatment system* includes all components, including lagoons and treatment ponds (such as settling or cooling ponds), designed to either convey or retain, concentrate, settle, reduce, or remove pollutants, either actively or passively, from wastewater prior to discharge (or eliminating any such discharge).

(16) *Wetlands*. The term *wetlands* means 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.

Section 404 (b)(1) compliance must be demonstrated before a Section 404 permit can be issued. Guidelines for a Section 404(b)(1) analysis were developed by the EPA in conjunction with USACE (40 CFR Parts 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

1.2 STATE JURISDICTION

The State of California (State) regulates discharge of material into waters of the State pursuant to Section 401 of the CWA as well as the California Porter-Cologne Water Quality Control Act (Porter-Cologne; California Water Code, Division 7, §13000 et seq.). Waters of the State are defined by Porter-Cologne as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code Section 13050(e)). Waters of the State broadly includes all waters within the State's boundaries (public or private), including waters in both natural and artificial channels.

1.2.1 Regional Water Quality Control Board

Under Porter-Cologne, the State Water Resources Control Board (SWRCB) and the local Regional Water Quality Control Boards (RWQCB) regulate the discharge of waste into waters of the State. Discharges of waste include "fill, any material resulting from human activity, or any other 'discharge' that may directly or indirectly impact 'waters of the state.'" Porter-Cologne reserves the right for the State to regulate activities that could affect the quantity and/or quality of surface and/or groundwaters, including isolated wetlands, within the State. Wetlands were defined as waters of the State if they demonstrated both wetland hydrology and hydric soils. Waters of the State determined to be jurisdictional for these purposes require, if impacted, waste discharge requirements (WDRs).

When an activity results in fill or discharge directly below the OHWM of jurisdictional waters of the United States (federal jurisdiction), including wetlands, a CWA Section 401 Water Quality Certification is required. If a proposed project is not subject to CWA Section 401 certification but involves activities that may result in a discharge to waters of the State, the project may still be regulated under Porter-Cologne and may be subject to waste discharge requirements. In cases where waters apply to both CWA and Porter-Cologne, RWQCB may consolidate permitting requirements to one permit.

1.2.2 California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1602 of the California Fish and Game Code, the California Department of Fish and Wildlife (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.

CDFW defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation" (California Code of Regulations, Title 14, Section 1.72). The jurisdiction of CDFW may include areas in or near intermittent streams, ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams that are indicated on USGS maps, watercourses that may contain subsurface flows, or within the flood plain of a water body.

CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW limits of jurisdiction typically include the maximum extents of the uppermost bank-to-bank distance and/or the outermost extent of riparian vegetation dripline, whichever measurement is greater.

In a CDFW guidance of stream processes and forms in dryland watersheds (Vyverberg 2010), streams are identified as having one or more channels that may all be active or receive water only during some high flow event. Subordinate features, such as low flow channels, active channels, banks associated with secondary channels, floodplains, and stream-associated vegetation, may occur within the bounds of a single, larger channel. The water course is defined by the topography or elevations of land that confine a stream to a definite course when its waters rise to their highest level. A watercourse is defined as a stream with boundaries defined by the maximal extent or expression on the landscape even though flow may otherwise be intermittent or ephemeral.

Artificial waterways such as ditches (including roadside ditches), canals, aqueducts, irrigation ditches, and other artificially created water conveyance systems also may be under the jurisdiction of CDFW. CDFW may claim jurisdiction over these features based on the presence of habitat characteristics suitable to support aquatic life, riparian vegetation, and/or stream-dependent terrestrial wildlife. As with natural waterways, the limit of CDFW jurisdiction of artificial waterways includes the uppermost bank-to-bank distance and/or the outermost extent of riparian vegetation dripline, whichever measurement is greater.

CDFW does not have jurisdiction over wetlands but has jurisdiction to protect against a net loss of wetlands. CDFW supports the wetland criteria recognized by USFWS; one or more indicators of wetland conditions must exist for wetlands conditions to be considered present. The following is the USFWS accepted definition of a wetland:

> Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the lands supports hydrophytes, (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated withwater or covered by shallow water at some time during the growing season of each year (Cowardin et al. 1979).

In A Clarification of the U.S. Fish and Wildlife Service's Wetland Definition (Tiner 1989), the USFWS definition was further clarified "that in order for any area to be classified as wetland by the Service, the area must be periodically saturated or covered by shallow water, whether wetland vegetation and/or hydric soils are present or not; this hydrologic requirement is addressed in the first sentence of the definition." When considering whether an action would result in a net loss of wetlands, CDFW will extend jurisdiction to USFWS-defined wetland conditions where such conditions exist within the riparian vegetation that is associated with a stream or lake and does not depend on whether those features meet the three-parameter USACE methodology of wetland determination. If impacts to wetlands under the jurisdiction of CDFW

are unavoidable, a mitigation plan will be implemented in coordination with CDFW to support the CDFW policy of “no net loss” of wetland habitat.

Appendix D – Tables

Table 1. Species Observed On-Site

Common Name	Scientific Name
Plants	
giant reed	*Arundo donax*
African sumac	*Searsia lancea*
Peruvian pepper tree	*Schinus molle*
ripgut brome	*Bromus diandrus*
mulefat	*Baccharis salicifolia*
Eucalyptus (red gum)	*Eucalyptus camaldulensis*
Birds	
common raven	*Corvus corax*
Anna's hummingbird	*Calypte anna*
house sparrow	*Passer domesticus*
bushtit	*Psaltriparus minimus*
acorn woodpecker	*Melanerpes formicivorus*
Reptiles	
Great basin fence lizard	*Sceloporus occidentalis longipes*

Table 2 – CNDDB Potential to Occur

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential for Occurrence
Abronia villosa var. aurita	chaparral sand-verbena	None, None	G5T2?, S2, 1B.1	Chaparral, coastal scrub, desert dunes. Sandy areas. -60-1570 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Accipiter cooperii	Cooper's hawk	None, None	G5, S4, CDFW-WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Agelaius tricolor	tricolored blackbird	None, Threatened	G2G3, S1S2, CDFW-SSC	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	None, None	G5T3, S3, CDFW-WL	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Allium munzii	Munz's onion	Endangered, Threatened	G1, S1, 1B.1	Chaparral, coastal scrub, cismontane woodland, pinyon and juniper woodland, valley and foothill grassland. Heavy clay soils; grows in grasslands & openings within shrublands or woodlands. 375-1040 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential for Occurrence
Ambrosia pumila	San Diego ambrosia	Endangered, None	G1, S1, 1B.1	Chaparral, coastal scrub, valley and foothill grassland. Sandy loam or clay soil; sometimes alkaline. In valleys; persists where disturbance has been superficial. Sometimes on margins or near vernal pools. 3-580 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Anniella stebbinsi	Southern California legless lizard	None, None	G3, S3, CDFW-SSC	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Arenaria paludicola	marsh sandwort	Endangered, Endangered	G1, S1, 1B.1	Marshes and swamps. Growing up through dense mats of Typha, Juncus, Scirpus, etc. in freshwater marsh. Sandy soil. 3-170 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Arizona elegans occidentalis	California glossy snake	None, None	G5T2, S2, CDFW-SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential for Occurrence
Artemisiospiza belli belli	Bell's sage sparrow	None, None	G5T2T3, S3, CDFW-WL	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range. Nest located on the ground beneath a shrub or in a shrub 6-18 inches above ground. Territories about 50 yds apart.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Asio otus	long-eared owl	None, None	G5, S3?, CDFW-SSC	Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land, productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Aspidoscelis hyperythra	orange-throated whiptail	None, None	G5, S2S3, CDFW-WL	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food: termites.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Aspidoscelis tigris stejnegeri	coastal whiptail	None, None	G5T5, S3, CDFW-SSC	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland & riparian areas. Ground may be firm soil, sandy, or rocky.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Athene cunicularia	burrowing owl	None, None	G4, S3, CDFW-SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential for Occurrence
Berberis nevinii	Nevin's barberry	Endangered, Endangered	G1, S1, 1B.1	Chaparral, cismontane woodland, coastal scrub, riparian scrub. On steep, N-facing slopes or in low grade sandy washes. 90-1590 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Bombus crotchii	Crotch bumble bee	None, Candidate Endangered	G3G4, S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Buteo swainsoni	Swainson's hawk	None, Threatened	G5, S3	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Calochortus plummerae	Plummer's mariposa-lily	None, None	G4, S4, 4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60-2500 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Carolella busckana	Busck's gallmoth	None, None	G1G3, SH	Gnorimoschemine moths of coastal dune and scrub habitats in California	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential for Occurrence
Catostomus santaanae	Santa Ana sucker	Threatened, None	G1, S1	Endemic to Los Angeles Basin south coastal streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Centromadia pungens ssp. laevis	smooth tarplant	None, None	G3G4T2, S2, 1B.1	Valley and foothill grassland, chenopod scrub, meadows and seeps, playas, riparian woodland. Alkali meadow, alkali scrub; also in disturbed places. 5-1170 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Ceratochrysis longimala	Desert cuckoo wasp	None, None	G1, S1	They favor dry areas and sandy soils; each species is confined to a narrow type of microhabitat where adults may rest or find hosts to parasitize, for example on bare soil or on dead wood where other solitary wasps have their nest holes.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None, None	G5T3T4, S3S4, CDFW-SSC	Coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego County. Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	Endangered, Endangered	G4?T1, S1, 1B.2	Marshes and swamps, coastal dunes. Limited to the higher zones of salt marsh habitat. 0-10 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Chorizanthe parryi var. parryi	Parry's spineflower	None, None	G3T2, S2, 1B.1	Coastal scrub, chaparral, cismontane woodland, valley and foothill grassland. Dry slopes and flats; sometimes at interface of 2 vegetation types, such as chaparral and oak woodland. Dry, sandy soils. 90-1220 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential for Occurrence
Chorizanthe polygonoides var. longispina	long-spined spineflower	None, None	G5T3, S3, 1B.2	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools. Gabbroic clay. 30-1630 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Threatened, Endangered	G5T2T3, S1	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Coturnicops noveboracensis	yellow rail	None, None	G4, S1S2, CDFW-SSC	Summer resident in eastern Sierra Nevada in Mono County. Freshwater marshlands.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Crotalus ruber	red-diamond rattlesnake	None, None	G4, S3, CDFW-SSC	Chaparral, woodland, grassland, & desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Diadophis punctatus modestus	San Bernardino ringneck snake	None, None	G5T2T3, S2?	Most common in open, relatively rocky areas. Often in somewhat moist microhabitats near intermittent streams. Avoids moving through open or barren areas by restricting movements to areas of surface litter or herbaceous veg.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential for Occurrence
Dipodomys merriami parvus	San Bernardino kangaroo rat	Endangered, Candidate Endangered	G5T1, S1, CDFW-SSC	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains. Needs early to intermediate seral stages.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Dipodomys stephensi	Stephens' kangaroo rat	Endangered, Threatened	G2, S2	Primarily annual & perennial grasslands, but also occurs in coastal scrub & sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Dudleya multicaulis	many-stemmed dudleya	None, None	G2, S2, 1B.2	Chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes. 1-910 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Elanus leucurus	white-tailed kite	None, None	G5, S3S4, CDFW-FP	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Eremophila alpestris actia	California horned lark	None, None	G5T4Q, S4, CDFW-WL	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential for Occurrence
Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	Endangered, Endangered	G4T1, S1, 1B.1	Coastal scrub, chaparral. In sandy soils on river floodplains or terraced fluvial deposits. 180-705 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Eumops perotis californicus	western mastiff bat	None, None	G5T4, S3S4, CDFW-SSC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Euphydryas editha quino	quino checkerspot butterfly	Endangered, None	G5T1T2, S1S2	Sunny openings within chaparral & coastal sage shrublands in parts of Riverside & San Diego counties. Hills and mesas near the coast. Need high densities of food plants Plantago erecta, P. insularis, and Orthocarpus purpurescens.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Gila orcuttii	arroyo chub	None, None	G2, S2, CDFW-SSC	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave & San Diego river basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Haliaeetus leucocephalus	bald eagle	Delisted, Endangered	G5, S3, CDFW-FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential for Occurrence
Harpagonella palmeri	Palmer's grapplinghook	None, None	G4, S3, 4.2	Chaparral, coastal scrub, valley and foothill grassland. Clay soils; open grassy areas within shrubland. 20-955 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Icteria virens	yellow-breasted chat	None, None	G5, S3, CDFW-SSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Lanius ludovicianus	loggerhead shrike	None, None	G4, S4, CDFW-SSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub & washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Lasiurus xanthinus	western yellow bat	None, None	G5, S3, CDFW-SSC	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	None, None	G4T2, S2, 1B.1	Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1-1375 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential for Occurrence
Laterallus jamaicensis coturniculus	California black rail	None, Threatened	G3G4T1, S1, CDFW-FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	None, None	G5T3, S3, 4.3	Chaparral, coastal scrub. Dry soils, shrubland. 4-1435 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None, None	G5T3T4, S3S4, CDFW-SSC	Intermediate canopy stages of shrub habitats & open shrub / herbaceous & tree / herbaceous edges. Coastal sage scrub habitats in Southern California.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Myosurus minimus ssp. apus	little mousetail	None, None	G5T2Q, S2, 3.1	Vernal pools, valley and foothill grassland. Alkaline soils. 20-640 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Myotis yumanensis	Yuma myotis	None, None	G5, S4	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Neotoma lepida intermedia	San Diego desert woodrat	None, None	G5T3T4, S3S4, CDFW-SSC	Coastal scrub of Southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops, rocky cliffs, and slopes.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential for Occurrence
Nyctinomops femorosaccus	pocketed free-tailed bat	None, None	G4, S3, CDFW-SSC	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc. Rocky areas with high cliffs.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	Endangered, None	G5T1Q, S1	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Onychomys torridus ramona	southern grasshopper mouse	None, None	G5T3, S3, CDFW-SSC	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover. Feeds almost exclusively on arthropods, especially scorpions and orthopteran insects.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Pandion haliaetus	osprey	None, None	G5, S4, CDFW-WL	Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Perognathus longimembris brevinasus	Los Angeles pocket mouse	None, None	G5T1T2, S1S2, CDFW-SSC	Lower elevation grasslands and coastal sage communities in and around the Los Angeles Basin. Open ground with fine, sandy soils. May not dig extensive burrows, hiding under weeds and dead leaves instead.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential for Occurrence
Phacelia stellaris	Brand's star phacelia	None, None	G1, S1, 1B.1	Coastal scrub, coastal dunes. Open areas. 3-370 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Phrynosoma blainvillii	coast horned lizard	None, None	G3G4, S3S4, CDFW-SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Polioptila californica californica	coastal California gnatcatcher	Threatened, None	G4G5T2Q, S2, CDFW-SSC	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Pseudognaphalium leucocephalum	white rabbit-tobacco	None, None	G4, S2, 2B.2	Riparian woodland, cismontane woodland, coastal scrub, chaparral. Sandy, gravelly sites. 35-515 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	None, None	G5T1, S1,	Headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temps of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential for Occurrence
Senecio aphanactis	chaparral ragwort	None, None	G3, S2, 2B.2	Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. 20-1020 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Setophaga petechia	yellow warbler	None, None	G5, S3S4, CDFW-SSC	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Southern California Arroyo Chub/Santa Ana Sucker Stream	Southern California Arroyo Chub/Santa Ana Sucker Stream	None, None	GNR, SNR,	Southern California Arroyo Chub/Santa Ana Sucker Stream	This habitat does not occur within the Project location.
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	None, None	G4, S4	Riparian forest	This habitat does not occur within the Project location.
Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	None, None	G3, S3.2	Riparian forest	This habitat does not occur within the Project location.
Southern Riparian Forest	Southern Riparian Forest	None, None	G4, S4	Riparian forest	This habitat does not occur within the Project location.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential for Occurrence
Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	None, None	G4, S4	Riparian woodland	This habitat does not occur within the Project location.
Southern Willow Scrub	Southern Willow Scrub	None, None	G3, S2.1	Riparian scrub	This habitat does not occur within the Project location.
Spea hammondii	western spadefoot	None, None	G3, S3, CDFW-SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Spinus lawrencei	Lawrence's goldfinch	None, None	G3G4, S3S4	Nests in open oak or other arid woodland and chaparral, near water. Nearby herbaceous habitats used for feeding. Closely associated with oaks.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Streptocephalus woottoni	Riverside fairy shrimp	Endangered, None	G1G2, S1S2	Endemic to Western Riverside, Orange, and San Diego counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Symphyotrichum defoliatum	San Bernardino aster	None, None	G2, S2, 1B.2	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. 3-2045 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.

Scientific Name	Common Name	Federal/State Status	Other Status	Habitat	Potential for Occurrence
Taxidea taxus	American badger	None, None	G5, S3, CDFW-SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Texosporium sancti-jacobi	woven-spored lichen	None, None	G3, S2, 3	Chaparral. Open sites; in California with Adenostoma fasciculatum, Eriogonum, Selaginella. Found on soil, small mammal pellets, dead twigs, and on Selaginella. 60-870 m.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.
Vireo bellii pusillus	least Bell's vireo	Endangered, Endangered	G5T2, S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	Suitable habitat for this species does not occur on site. Potential for occurrence for this species is **low**.

Coding and Terms

E = Endangered T = Threatened C = Candidate FP = Fully Protected SSC = Species of Special Concern R = Rare

State Species of Special Concern: An administrative designation given to vertebrate species that appear to be vulnerable to extinction because of declining populations, limited acreages, and/or continuing threats. Raptor and owls are protected under section 3502.5 of the California Fish and Game code: "It is unlawful to take, possess or destroy any birds in the orders Falconiformes or Strigiformes or to take, possess or destroy the nest or eggs of any such bird."

State Fully Protected: The classification of Fully Protected was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians and reptiles. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Global Rankings (Species or Natural Community Level):

G1 = Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2 = Imperiled – At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
G3 = Vulnerable – At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
G4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5 = Secure – Common; widespread and abundant.

Subspecies Level: Taxa which are subspecies or varieties receive a taxon rank (T-rank**)** attached to their G-rank. Where the G-rank reflects the condition of the entire species, the T-rank reflects the global situation of just the subspecies. For example: the Point Reyes mountain beaver, *Aplodontia rufa* ssp. *phaea* is ranked G5T2. The G-rank refers to the whole species range i.e., *Aplodontia rufa*. The T-rank refers only to the global condition of ssp. *phaea*.

State Ranking:

S1 = Critically Imperiled – Critically imperiled in the State because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the State.
S2 = Imperiled – Imperiled in the State because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the State.
S3 = Vulnerable – Vulnerable in the State due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the State.
S4 = Apparently Secure – Uncommon but not rare in the State; some cause for long-term concern due to declines or other factors.
S5 = Secure – Common, widespread, and abundant in the State.

California Rare Plant Rankings (CNPS List):

1A = Plants presumed extirpated in California and either rare or extinct elsewhere.
1B = Plants rare, threatened, or endangered in California and elsewhere.
2A = Plants presumed extirpated in California, but common elsewhere.
2B = Plants rare, threatened, or endangered in California, but more common elsewhere.
3 = Plants about which more information is needed; a review list.
4 = Plants of limited distribution; a watch list.

Threat Ranks:

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

Appendix E – Datasheets

#1

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: APN 237-130-023 City/County: Riverside, CA Sampling Date: 9/7/20

Applicant/Owner: Lynette Pasley State: CA Sampling Point: _____

Investigator(s): Eugene Jennings Section, Township, Range: 15&16, T3S, R5W

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR): _____ Lat: 33.910123 Long: -117.401682 Datum: WGS84

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____ No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes ✓ No ✓	

Remarks:
This is an ephemeral drainage with little to no veg in the channel.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Eucalyptus camaldulensis	100	yes	FAC
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: _____)			
1. Bromus diandrus	2%	yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: .5 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 5/1

Hydrophytic Vegetation Indicators:

___ 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, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

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
0-18	2.5Y 4/3	100	None				Sand/DG	No Matrix was Unable

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ 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)
- ___ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: APN 237-130-023
Project Number: Lynette Pasley
Stream: Unnamed
Investigator(s): Eugene Jennings
Date: 9/7/20 **Time:** 8:30 AM
Town: Riverside **State:** CA
Photo begin file#: **Photo end file#:**

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☒ / N ☐ Is the site significantly disturbed?

Location Details: City of Riverside

Projection: UTM **Datum:**
Coordinates: 33.910123 -117.401692

Potential anthropogenic influences on the channel system:

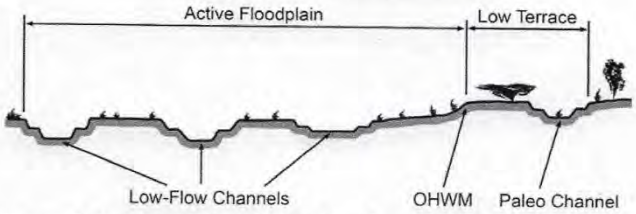
Brief site description:
Developed residential property w/ one drainage feature on site

Checklist of resources (if available):

- ☒ Aerial photography
  Dates:
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

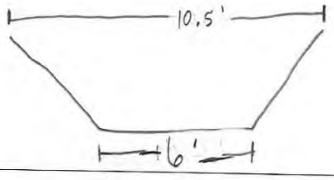


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☒ Mapping on aerial photograph
   - ☒ Digitized on computer
   - ☒ GPS
   - ☐ Other:

Project ID: **Cross section ID:** **Date:** **Time:**

Cross section drawing:



OHWM

GPS point: #1 33.910085 / -117.401609

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: DG/Sand

Total veg cover: 90 % Tree: 80 % Shrub: ____ % Herb: 10 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☒ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☒ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Appendix F – RCRCD Site Assessment

PONYHAYVIN RANCH
SITE ASSESSEMENT
JUNE 2019

2190 St Lawrence St. Riverside, CA 92504

Provided by

RCRCD
RIVERSIDE-CORONA RESOURCE CONSERVATION DISTRICT

June 2019 Site Assessment
Ponyhayvin Ranch

Introduction:

The RCRCD provided a baseline site assessment at the Ponyhayvin Ranch in the Greenbelt area of the City of Riverside on June 26, 2019 in an effort to determine site use for agricultural purposes and possible environmental benefits to the adjacent Woodcrest Arroyo, along with potential management actions aimed at habitat uplift and conservation.

The site is situated on approximately 5 acres of upland, agricultural, residential and a small portion of streambed, along the Woodcrest Arroyo in the City of Riverside, (Fig. 1). The residence is situated along St. Lawrence Ave. at approximately 970' elevation. The corrals and arena are at a 960' elevation and the Woodcrest Arroyo is at a 950-952' elevation, starting at the upper end of property, downstream for approximately490', with a cross-section depth averaging 8'. (Fig. 2).

Figure 1: Aerial view of site in August 2018 showing general elevations and use.

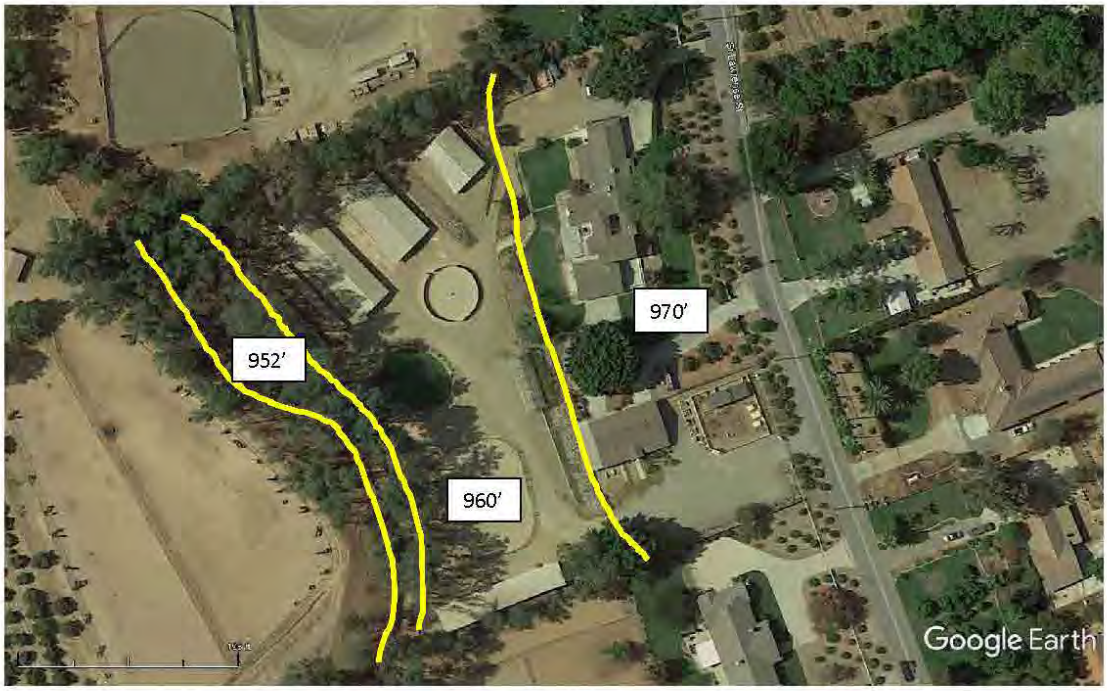
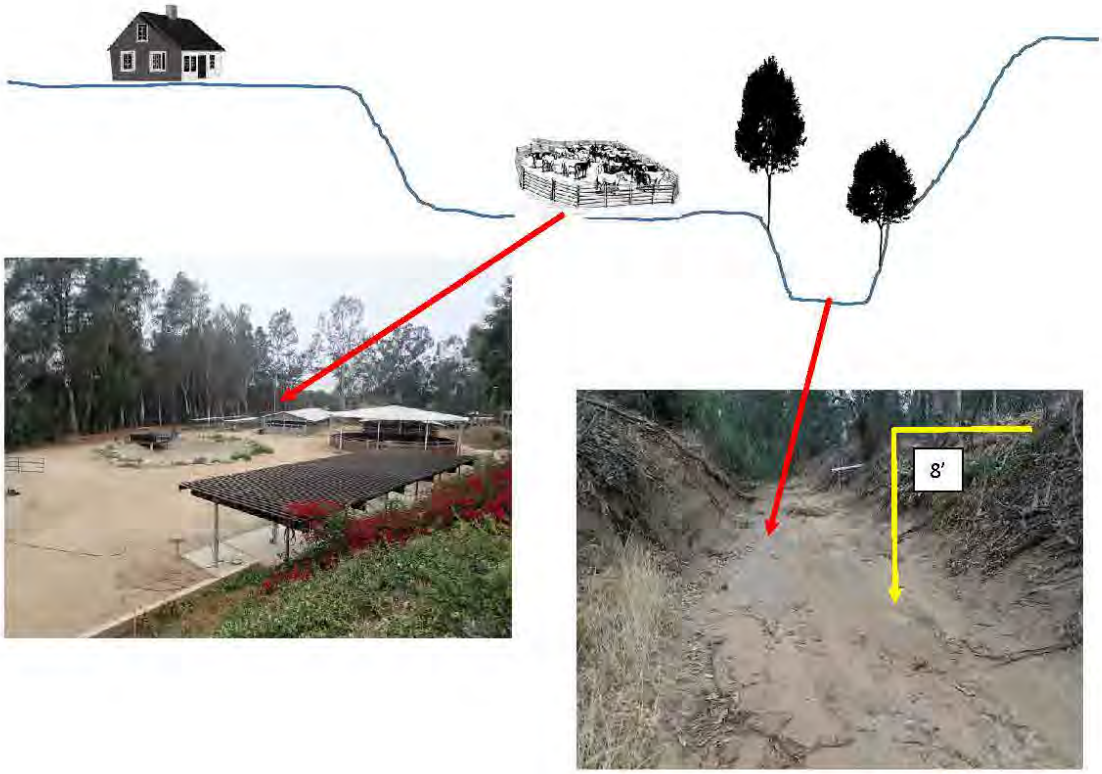


Fig 2: Site Cross-section View



In order to determine flood--prone width of the channel at this location for conservation purposes, take the standard depth of the channel flow, x 2 and measure the width at that height to determine if the channel is incised. Under current conditions the natural channel is considered constrained from both above and below the property. (2.5') x 2 = 5'. The current channel depth is over 8', which does not allow water, even at peak flood stage, (5') to overtop the bank and inundate the arena and corral areas of the property. While older USGS quad maps show elevations at 10 and 20 intervals, this site has undergone grade changes over the decades from upstream property owners and past owners that have decreased the floodplain width to its current location and depth.

While elevations within the corral area vary by a few inches to a few feet, overall elevation of the site is well above the arroyo water elevation, while at the same time, erosion and natural hydrologic processes are taking place during flood events. The channel is normally dry and mainly carries storm runoff. Head cutting is also occurring, making the channel even deeper in some locations.

Recommendations:

In its current state, the lower part of the property is used for agricultural and residential purposes, while providing opportunities for runoff collection in the recreational pond and reduction of sediment through regular pond maintenance, which is currently taking place). Banks of the arroyo that are planted with red gum eucalyptus (*Eucalyptus camaldulensis)* could be removed and planted with native trees such as Ca. sycamore, coast live oak, western redbud and elderberry. Photo at left shows storm damaged eucalyptus and upstream view of arroyo. There is ample area for planting of natives on streambank terraces to improve soil stability and habitat diversity.

Photo looking downstream toward adjacent property and wider channel bottom with exotic grasses and non-native plants such as castor bean, tree tobacco and a small patch of arundo donax (giant reed). Many channel bottom areas in the upper reach of the arroyo consist of gray, decomposing granite, which makes erosion in these areas impossible. While the rock is considered weathered, decomposition is extremely slow. Nonnative plants can be removed and controlled and a plant pallet developed based on local natives to help increase habitat value while protecting streambanks and property uses.

Conclusions:

Normal hydrologic functions of the arroyo are present in the form of carrying storm runoff and natural erosion and sedimentation processes. But beneficial habitat function and values could be improved through the following:

- Removal and control of nonnative plants and grasses/weeds.
- Removal of a majority of red gum eucalyptus.
- Planting of native trees and shrubs.
- Application of drip irrigation to establish any native plantings.
- Continued application of mulches and gravel to access roads and landscape areas of the property.

In discussions with the owners, conservation of the arroyo and removal of non-native trees over a period of time in order to allow for budgeting and for scheduling during off-season breeding could be considered and would improve the agricultural uses of the property.

If you have any further questions regarding this assessment about the conservation values of the property, please contact:

Kerwin Russell
Natural Resources Manager
Riverside-Corona Resource Conservation District
russell@rcrcd.org

RCRCD
RIVERSIDE-CORONA RESOURCE CONSERVATION DISTRICT

Appendix G – RCRCD Supplemental Site Assessment

RIVERSIDE-CORONA RESOURCE CONSERVATION DISTRICT

4500 Glenwood Dr. Bldg. A
Riverside, CA. 92501

Supplemental Site Assessment
for PonyHayvin Ranch
2190 St. Lawrence
Riverside, CA. 92504

12/15/2019

To Whom it May Concern:

After additional analysis of the current water course elevations and conditions at the PonyHayvin Ranch site in the greenbelt area in the City of Riverside, the Riverside-Corona Resource Conservation District (RCRCD) staff determined that flood flows in the Woodcrest Arroyo (Goldenstar Creek) no longer follow the historic flow lines of the current geologic features that were originally mapped on USGS quads and that were used to determine the arroyo overlay maps for the City of Riverside.

In order to accurately reflect current flow lines and flood plain width/depth in this reach of the arroyo, the current flood--prone width of the channel needed to be determined. Standard calculations for flood-prone width are taken by using the standard depth of the channel flow x 2, and measuring the width at that height to determine if the channel is incised. Under current conditions, the natural channel is considered constrained both above and below the property. (2.5') x 2 = 5'. The current channel depth through the property is over 8', with a 10 to 12' width, which does not allow water, even at peak flood stage to overtop the banks and inundate the arena and corral areas of the property. While older USGS quad maps show elevations at 20' intervals, this site has undergone grade changes over the decades from upstream property owners and from past owners of the site that have decreased the floodplain width to its current location.

While elevations within the corral area vary by a few inches to a few feet, overall elevations of the corrals are well above the arroyo flood water elevation. The channel is normally dry and mainly carries storm runoff. Head cutting is also occurring upstream, making the channel even deeper in some locations. This also changes the OHWM of the channel.

The term ordinary high water mark (OHWM) means, an obvious line on the channel bank has been established by fluctuations of water and are indicated by physical characteristics such as a natural line impressed on the bank, shelving, (terraces) changes in the character of bank soil, destruction or removal of bank vegetation, the presence of litter and debris, (rack) or other indicators that show physical characteristics of water flow.

These characteristics are not present in the arroyo above the 6' mark of the channel, and water has not overtopped the bank at this elevation. Regardless of the conditions, two or more characteristics were determined to be present and indicate a change in water elevation that is significantly lower than those shown on the water course overlay map. The Army Corps of Engineers (ACOE) has provided determinations for estimating the ordinary high water mark in streams and provides the following information:

"The term "bankfull" was originally used to describe the incipient elevation mark on the bank where flooding begins. In many stream systems, the bankfull stage is associated with the flow that just fills the natural channel to the top of its banks and at a point where the water begins to overflow onto the active floodplain (corral area). For stream classification purposes, the commonly accepted and universally applied definition of BFS is: "The bankfull stage corresponds to the discharge at which the channel flood stage is the most effective, or the discharge at which moving sediment, forming or removing bars, forming or changing bends and meanders and that results in the average morphological characteristics of channels. The bankfull stage and its associated discharge serve as morphological indices which can be related to the formation, maintenance and dimensions of the channel as it exists under the current regime. Since natural streams are self-formed and self-maintained, it is important to relate measurable features that can be identified in the field. By identifying the BFS, the principal investigator can assess the stream channel condition and the active floodplain defines the limit of a BFS." (ACOE 2001)

For actual elevations and drainage flow lines, a NRCS or other hydrologist can be contacted if needed to determine actual elevations or drainage flow lines for runoff control.

If a large flood event has occurred in the past few years, it is likely the channel did not develop enough indicators from this event and there will not an obvious OHWM in all areas, but most of these features were present during the first and second assessments. Leaf litter, dead branches, understory plants and other indicators were not washed away or filled with sediment since peak flows do not overtop the channel. A typical floodplain and current features are shown in below figures 1 and 2.

Fig. 1. ACOE Floodplain units and typical hydrogeomorphic conditions of natural arroyos.

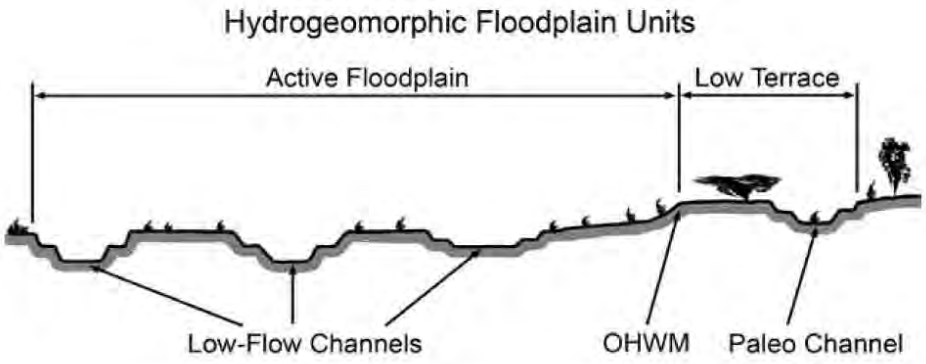
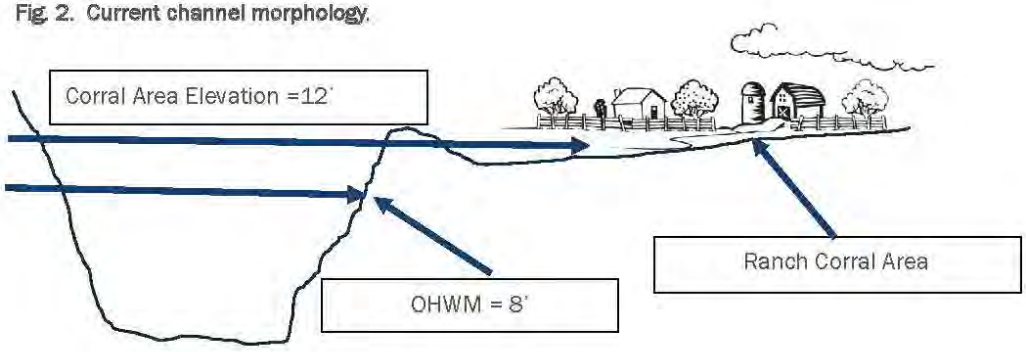


Fig. 2. Current channel morphology.



Branches and other debris above this line were not washed away or filled with sediment since peak flows have been altered by an upstream dam and other human alteration to the channel, resulting in reduced flows and changes in hydrology. The historic channel does not function as a natural stream anymore and is confined up and downstream of this location, leading to a reduced inundation area. Human impact has altered the type, distribution and distinctiveness of the physical features developed at this particular location and therefore affects the OHWM that was used in the city arroyo map development and associated water course overlay. Although an almost limitless number of combinations of human land uses can affect channel function, six activities have generally been responsible for significant channel modification in the area:

1) land clearing for agriculture or grazing (present in the area for many decades);
2) urbanization (occurring);
3) gravel mining;
4) channelization (up and downstream of site);
5) dam construction (upstream of site);
6) flow modification associated with channelization.

Common channel responses to each of these activities are understood by most hydrologists and the responses may or may not occur together, and their magnitudes will vary. Ultimately, the magnitude of a stream's response to anthropogenic changes is largely controlled by the complex combination of disturbance intensity, proximity to the stream and soil/vegetation cover. Since Woodcrest dam is upstream of the site, the following has occurred:

- Decreased peak flows downstream, sediment transport capacity and sediment-to-water ratio are less
- Loss of bank soil composition and creation
- Channel incision downstream of dam (occurring on the property, deepening channel)
- Channel narrowing on the property, associated with deepening
- Sediment accumulation behind dam, which is removed annually by county flood control

Watershed characteristics and the local hydrologic regime influence the geometry of the channel and the surrounding floodplain, by determining the amount of sediment deposited and eroded. This sediment load is a product of the stream's state of equilibrium which is a classification of aggradation and degradation, which extends beyond standard erosion and deposition of sediment. The stream equilibrium is a balance of sediment size and sediment load, associated with stream slope and discharge. This changes when the natural erosion and deposition are upset due to one or more of the factors above.

For example, if stream slope increases due to removal of meander bends and straightening of the channel, much like which has occurred in the Woodcrest Arroyo, then degradation will likely occur. Eventually, sediment load increases to the degree that the balance may reestablish, or swing back into aggradation as that extra sediment settles out upstream. Stream channel morphology is influenced by the hydrologic regime and the tendency of the channel to establish a state of equilibrium. These components drive the quantity of sediment deposited and eroded, and in turn, influence the geometry of the channel and surrounding floodplain. (1)

1) Field Identification of Ordinary High Water Mark in Relationship to the Field Identification of Bankfull Stage, Galveston, TX. ACOE, 2012).

Fig. 3. Current overlay map and zoning configuration and current channel location and floodplain (red).

Fig. 4. Aerial image of current location of Woodcrest Arroyo flowline and subject property.

The current location, width, depth and elevation of the channel does not reflect the arroyo overlay map currently used by the city. Flooding from the arroyo onto the PonyHayvin Ranch is highly unlikely and does not pose a flood danger to the existing structures or the home. Normal ponding or runoff from soil surfaces and roofs is to be expected and can be ameliorated through surface or subsurface drainage features. Additional information will be provided by USDA Natural Resources Conservation Service in the form of transit surveys for elevations, conservation plan and grant funding for irrigation system improvements or drainage features. A site visit will be performed by an NRCS representative following this report.

Looking upstream along property

Looking downstream along property

Red line indicates location of OHWM and limits of flooding zone. Current property elevation is at yellow line in both photos and ranges between 4 and 8 feet above the maximum flood event elevation.

For more information on this report please contact the RCRCD at 951-683-7691, ext. 203 or russell@rcrcd.org. Additional information on projects and programs of the RCRCD can be found at RCRCD.org.

The RCRCD is not liable for damage from changes in runoff, drainage or other features installed or maintained by the City of Riverside, the County of Riverside or the property owner.

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