AQUATIC RESOURCES DELINEATION REPORT
Villa Serena Specific Plan (Tract No. 20245) Project

Prepared for:

City of Upland, Development Services Department
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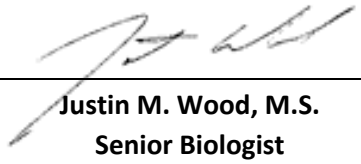
Aquatic Resources Delineation Report

Villa Serena Specific Plan (Tract No. 20245) Project
Upland, California

The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a jurisdictional determination and delineation for the above-referenced project.



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1.0 Introduction

This report was prepared by Aspen Environmental Group (Aspen) to describe the aquatic resources at the Villa Serena Specific Plan (Tract No. 20245) Project (project). The project is located within 15th Street Basin within the City of Upland, California. The Colonies Partners, LLC. proposes to develop approximately 9.16 acres of the property and construct 65 houses. Throughout this report, "project" refers to the proposed residential development of a portion of 15th Street Basin, while "project site" refers to all areas that may be directly or indirectly impacted by project activities as well as a larger survey area that encompasses 15th Street Basin. This report provides preliminary data on the extent of resources under the jurisdiction of the U.S. Army Corps of Engineers (USACE), Santa Ana Regional Water Quality Control Board (SARWQCB), and California Department of Fish and Wildlife (CDFW).

1.1 Lead Agency Name and Address

City of Upland, Development Services Department
460 N. Euclid Avenue
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1.2 Contact Person and Phone Number

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1.3 Site Access

Driving directions to the project site are provided below in Table 1.

Table 1. Driving Directions to the Project Site

From The Greater Los Angeles Area of Southern California:
Take Interstate 10 east towards San Bernardino.
Take exit 51 onto Euclid Ave. north.
Travel north of Euclid Ave. approximately 1.8 miles and turn right on E 14th St.
Travel east on E 14th St. approximately 1.05 miles and turn left on Alta Ave.
Travel north one block on Alta Ave. and make left turn onto E 15th St.
Make a quick right turn at a chain link gate to enter the Project site.

2.0 Project and Property Description

2.1 Project Description

The Colonies Partners, LLC proposes to construct 65 single-family residential dwellings on 9.16 acres of the existing 20.3-acre 15th Street Basin. In addition to the residential dwellings, the project will also construct a community pool, pool house, restrooms, picnic tables, and utility connections. The total impact area included in this report is 22.1 acres which includes temporary impact areas and additional improvements to infrastructure beyond the limits of 15th Street Basin. Approximately 4.3 acres of 15th

Street Basin will remain as a functioning flood control basin and will be excavated to increase its storage capacity, referred to as the Conservation Area throughout this report. The basin will also be preserved and enhanced to off-set the loss of riparian and wetland vegetation.

2.2 Project Location

The project site is approximately 22.1-acres and is located on the northeast corner of the intersection of Fernando Avenue and E. 15th Street in the City of Upland, California (APN: 3105-171-08). The project site is located in Section 23, Township 1 South, Range 5 West (USGS Ontario, CA 7.5-minute quadrangle) (Figure 1, Attachment 1). The project site is surrounded by existing single family residential housing developments to the south, east, and west with Upland Hills Country Club to the north. Dry Dock Depot Boat and RV Storage and Southern California Edison Padua Station are located to the southwest and northwest of Campus Avenue.

3.0 Existing Conditions

3.1 Topography and Surrounding Land Use

The project site is located within the City of Upland, approximately three miles from the foothills of the San Gabriel Mountains. The project site is located just south of the Upland Hills Country Club and just north of the Red Hill Country Club. Other than the golf courses to the north and south of the project site, the project site is largely surrounded by dense residential development.

3.2 Vegetation

Vegetation mapping was done by drawing tentative boundaries onto high-resolution aerial images during site visit on June 24, 2022. These boundaries were then digitized into Geographic Information System (GIS) shapefiles. Vegetation maps were field verified for accuracy on August 15, 2022 (see Attachment 1; Figure 2: Vegetation and Land Cover). Vegetation within the project site is further described below using the names and descriptions in *A Manual of California Vegetation* (Sawyer et al., 2009). Vegetation was mapped digitally using ArcGIS (version 10.7) and one-foot pixel aerial imagery. The smallest mapping unit was approximately 0.05-acre and most mapped vegetation boundaries are accurate to within approximately 5-ft. Any vegetation map is subject to imprecision for several reasons:

1. Vegetation types tend to intergrade on the landscape so that there are no true boundaries in the vegetation itself. In these cases, a mapped boundary represents best professional judgment.
2. Vegetation types as they are named and described tend to intergrade; that is, a given stand of real-world vegetation may not fit into any named type in the classification scheme used. Thus, a mapped and labeled polygon is given the best name available in the classification, but this name does not imply that the vegetation unambiguously matches its mapped name.
3. Vegetation tends to be patchy. Small patches of one named type are often included within mapped polygons of another type. The size of these patches varies, depending on the minimum mapping units and scale of available aerial imagery.

Vegetation within the project site consists of riparian and wetland vegetation, upland vegetation, and other land cover types. They are described in detail below and acreages of the vegetation and land cover areas are presented in Table 1 and shown in Figure 2 (Attachment 1).

Table 2. Vegetation and Other Cover Types on the Project Site (acres)

Vegetation Type	Development Area (Acres)	Conservation Area (Acres)	Project Site (Acres)
California buckwheat scrub	5.39	2.55	7.94
Cattail marshes	0.08	0.18	0.25
Eucalyptus - tree of heaven - black locust groves	0.89	0.64	1.53
Mulefat scrub	--	0.17	0.17
Scale broom scrub	0.14	--	0.14
Other Cover Types			
Developed	11.30	0.74	12.04
Total	**17.79**	**4.29**	**22.08**

Riparian and Wetland Vegetation Types

Cattail marshes (*Typha* (*angustifolia*, *domingensis*, *latifolia*) Herbaceous Alliance). Cattail marshes are wetland vegetation that is dominated by broadleaf cattail (*Typha latifolia*). Additional species such as marsh purslane (*Ludwigia peploides*), Dallis grass (*Paspalum dilatatum*), cocklebur (*Xanthium strumarium*), and Spanish sunflower (*Pulicaria paludosa*) are also present. Cattail marshes are present in the low-lying portions of the project site that accumulate runoff and storm flows from the adjacent golf course and watershed. Cattail marshes have a State rank of S5 and are therefore not recognized as a sensitive natural community by CDFW (CDFW, 2022).

Mulefat thickets (*Baccharis salicifolia* Shrubland Alliance). Mulefat thickets are a winter deciduous shrubland that are dominated by mulefat (*Baccharis salicifolia*). Additional species such as Gooding's black willow (*Salix gooddingii*), Chinese elms (*Ulmus parvifolia*), and California sycamore (*Platanus racemosa*) are also present. The mulefat thickets are present within the Conservation Area, along the northern and southern edges of the basin floor. Mulefat thickets have a State Rank of S4 and are therefore not recognized as a sensitive natural community by CDFW (CDFW, 2022).

Upland Vegetation Types

California buckwheat scrub (*Eriogonum fasciculatum* Shrubland Alliance). California buckwheat scrub is a type of coastal sage scrub dominated by California buckwheat (*Eriogonum fasciculatum*). Other species such as pine bush (*Ericameria pinifolia*), broom baccharis (*Baccharis sarothroides*), coastal sage brush (*Artemisia californica*), and black sage (*Salvia mellifera*). California buckwheat scrub is the most common native vegetation within the project site and most of it is in the Conservation Area. California buckwheat scrub has a State rank of S5 and are therefore not recognized as a sensitive natural community by CDFW (CDFW, 2022).

Eucalyptus – tree of heaven – black locust groves (*Eucalyptus* spp. – *Ailanthus altissima* – *Robinia pseudoacacia* Woodland Semi-Natural Alliance). Eucalyptus – tree of heaven – black locust groves are used to map all vegetation dominated by non-native trees within the project site including gum trees (*Eucalyptus* spp.), crepe myrtle (*Lagerstroemia indica*), goldenrain tree (*Koelreuteria bipinnata*), and others. Native tree species such as California sycamore and coast live oak are also present but generally represent single trees and not a continuous canopy. Eucalyptus – tree of heaven – black locust groves have a State Rank of SNA (Not Applicable) and are therefore not recognized as a sensitive natural community by CDFW (CDFW, 2022).

Scale broom scrub (*Lepidospartum squamatum* Shrubland Alliance). Scale broom scrub is a type of alluvial fan sage scrub or coastal sage scrub dominated by scale broom (*Lepidospartum squamatum*). Other species such as California buckwheat and deerweed (*Acmispon glaber*) are also present in low numbers. Scale broom scrub is present on one slope within the Development Area. It is likely a remnant stand of a vegetation type that was once much more common in the region. Scale broom scrub has a State Rank of S3 and is therefore recognized as a sensitive natural community by CDFW (CDFW, 2022).

Other Cover Types

Developed. This cover type includes disturbed and developed areas within the project site including unpaved roads, drainage structures, and the unvegetated slopes and basin floors. Sparse vegetation is present and includes weedy species such as wild oat (*Avena* spp.), ripgut brome (*Bromus diandrus*), red brome (*Bromus rubens*), mustard (*Hirschfeldia incana*), and tocalote (*Centaurea melitensis*). Developed is not a vegetation type and is therefore not described in *A Manual of California Vegetation* and is also not recognized as a sensitive natural community by CDFW (CDFW, 2022).

3.3 Climate

Climate in the region is temperate, with mild winters and hot, dry summers. Average temperatures near the project site in Ontario, California include an average low temperature of 53 degrees Fahrenheit and an average high temperature of 78 degrees Fahrenheit (U.S. Climate Data, 2022). Rainfall is greatest during the months of November through March, with an average annual precipitation total of 17.16 inches, as reported in north Claremont, approximately 4 miles west of the project site (Los Angeles County, 2022). Rainfall to-date has been lower than average with approximately 14.33 inches falling in the region since October 2, 2021 (Los Angeles County, 2022).

3.4 Hydrology

Surface flows in the region generally enter Cucamonga Creek, approximately 0.4 miles east of the project site through a series of storm drains and other infrastructure. Surface flows that enter the project site, have largely been disconnected from the rest of the watershed and now originate in the Upland Hills Country Club and surrounding residential developments, within approximately 0.5 miles of the project site. Flows enter the project site through a series of concrete-lined swales and channels that convey flows to the bottom of 15th Street Basin. Most flows that enter the basin appear to percolate into the ground, and very little flows off-site into a storm drain at the west end of the project site. Flows that leave the project site, enter the 15th Street Interceptor and travel west approximately 0.15 miles before they merge with 15th Street Storm Drain. Flows continue downstream approximately 7.3 miles through various channels and basins before entering Cucamonga Creek Channel. Flows then continue downstream, approximately 11 miles before merging with the Santa Ana River within Prado Basin. Approximately 30 miles downstream flows enter the Pacific Ocean which is recognized by the USACE as a traditional navigable water (TNW) thereby establishing surface connectivity of the project site to navigable waters.

The National Hydrography Dataset (NHD) defines nested hydrologic units, beginning with regions that are subdivided into subregions, basins, subbasins and watersheds. The project site is located within the South Coast Hydrologic Region of southern California (CDWR, 2004). It is also located in the Cucamonga Subbasin of the Upper Santa Ana Valley Groundwater Basin (CDWR, 2004). The project site is located within the larger Santa Ana River Watershed, an area of more than 2,400-square-mile (6,200 square kilometer). Elevations in the watershed range from 1,520 feet (463 meter) in the northern portion of the Upland Hills Country Club to 1,425 feet (434 meter) in the western end of the project site. The project site is currently

mapped in the National Wetland Inventory as freshwater emergent wetland habitat (PEM1Cx) and as freshwater pond habitat (PUSCx and PUBFx) (USFWS 2022).

3.5 Soils and Geology

3.5.1 Soils

Historic soil data from the Natural Resources Conservation Service (NRCS) was used to determine potential soil types, including where hydric soils have historically occurred, within the project site (NRCS, 2022). Figures 3 (Attachment 1) illustrates the location of historic soil types identified in the project site. Detailed information on elevation ranges, parent material, flooding potential, and drainage classes for each map unit symbol is provided below.

Table 3. Soil Units Occurring in the Project Site (acres)

Map Unit Symbol	Map Unit Name	Hydric Soil (Yes or No)	Development Area (Acres)	Conservation Area (Acres)	Project Site (Acres)
SoC	Soboba gravelly loamy sand, 0 to 9 percent slopes	No	0.10	0.16	0.27
SpC	Soboba stony loamy sand, 2 to 9 percent slopes	No	17.79	4.12	21.81
		Total:	**17.79**	**4.29**	**22.08**

Soboba gravelly loamy sand, 0 to 9 percent slopes. Soboba gravelly loamy sand soil is found in alluvial fans derived from sandy and gravelly alluvium derived from granite. It is an excessively drained soil. It is found in areas with 0 to 9 percent slopes at elevations of about 30 to 4,200 feet. Water table depth is typically more than 80 inches, and these areas never flood. The substrate is comprised of gravelly loamy sand (0 to 10 inches), very gravelly loamy sand (12 to 36 inches), and very stony sand (36 to 60 inches).

Soboba stony loamy sand, 2 to 9 percent slopes. Soboba stony loamy sand soil is found in alluvial fans derived from granite. It is an excessively drained soil. It is found in areas with 2 to 9 percent slopes at elevations of about 960 to 3,690 feet. Water table depth is typically more than 80 inches, and these areas never flood. The substrate is comprised of stony loamy sand (0 to 10 inches), very stony loamy sand (10 to 24 inches), and very stony sand (24 to 60 inches).

3.5.2 Geology

The project site is located on an extensive alluvial fan below the San Gabriel Mountains, formed by Cucamonga Creek over millions of years. The quaternary age alluvium consists of unconsolidated to loosely consolidated sand, gravel, and silt with a few beds of compacted clay deposit by streams draining the San Gabriel Mountains. The gravels of alluvial fans are relatively coarse throughout (CDWR, 2004). Several faults are present in the vicinity of the project site, including the Cucamonga Fault, the Red Hill-Etiwanda Avenue Fault, and the Indian Hill Fault (CDWR, 2004).

4.0 Regulatory Background

Jurisdictional waters, including some wetlands and riparian habitats, are regulated by the USACE, the Regional Water Quality Control Board (RWQCB), and CDFW. The USACE Regulatory Program regulates activities pursuant to Section 404 of the federal Clean Water Act (33 U.S.C. 1344; CWA); the CDFW

regulates activities under the Fish and Game Code Section 1600-1607; and the RWQCB regulates activities under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

4.1 Section 404 of the Clean Water Act

Section 404 of the CWA regulates the discharge of dredged material, placement of fill material, or certain types of excavation within "waters of the U.S." (resulting in more than incidental fallback of material) and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. Permits can be issued for individual projects (individual permits) or for general categories of projects (general permits). The definition of federally jurisdictional wetlands and "waters of the U.S." have changed several times recently and the latest interpretation of the CWA is discussed below.

In 2020, the U.S. Environmental Protection Agency (USEPA) updated the CWA and their definition of navigable waters (USACE and USEPA, 2020). The Navigable Waters Protection Rule (NWPR) revised the definition of "Waters of the U.S." to encompass traditional navigable waters; perennial and intermittent tributaries that contribute surface waters flow to such waters; certain lakes, ponds, and impoundments of jurisdictional waters; and wetlands adjacent to other jurisdictional waters. Ephemeral waters were not included in the NWPR definition of "Waters of the U.S." In 2021, the USEPA and USACE were directed by the Biden Administration and the U.S. District Court to vacate the 2020 NWPR and revert to the pre-2020 rule. On January 18, 2023, the USEPA published the "Revised Definition of 'Waters of the United States'" (the January 2023 Rule), with a definition of "Waters of the U.S" that reutilized the 2006 *Rapanos* ruling's permanent and significant nexus standards.

Most recently on May 25, 2023, the U.S. Supreme Court decision in *Sackett v. Environmental Protection Agency* concluded that the significant nexus standard is inconsistent with the CWA. On August 29, 2023, the USACE and USEPA issued a prepublication of the final rule to amend the January 2023 Rule and define "Waters of the U.S." as follows, once again not including ephemeral waters:

- Traditional navigable waters, the territorial seas, and interstate waters (referred to as "(a)(1) waters").
- Impoundments of "Waters of the U.S.", other than impoundments of waters identified under paragraph (a)(5) (referred to as "(a)(2) waters").
- Tributaries to traditional navigable waters, the territorial seas, and interstate waters that are relatively permanent, standing or continuously flowing bodies of water (referred to as "(a)(3) waters" or "jurisdictional tributaries").
- Wetlands adjacent to and having a continuous surface connection with (a)(1) waters or relatively permanent, standing or continuously flowing (a)(2) waters (referred to as "jurisdictional adjacent wetlands").
- Intrastate lakes and ponds not identified as (a)(1) through (4) waters that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to (a)(1) or (a)(3) waters.

The January 2023 Rule exclusions from the definition of "Waters of the U.S." remain the same, including, but not limited to, prior converted cropland and ditches excavated wholly in and draining only dry land not carrying a relatively permanent flow of water.

On April 6, 2022, the U.S. Supreme Court issued a stay of the 2021 order by the U.S. District Court for the Northern District of California that vacated the USEPA's 2020 Clean Water Act Section 401 Certification Rule. Therefore, the CWA section 401 certification process is once again governed by the CWA section 401 certification regulations promulgated by USEPA in 2020 (40 CFR 121). On June 1, 2022, the USEPA Administrator signed a proposed rule to improve the CWA section 401 certification process. The proposed rule would replace and update the existing regulations at 40 CFR 121, to be more consistent with the statutory text of the 1972 CWA and clarify elements of section 401 certification practice that has evolved over the 50 years since the 1971 regulation was promulgated. On June 9, 2022, the proposed rule was published in the Federal Register (EPA, 2022).

4.2 Porter Cologne Water Quality Control Act and Section 401 of the Clean Water Act

The RWQCBs regulate activities affecting 'waters of the State' according to the Porter-Cologne Water Quality Control Act and Section 401 of the federal CWA. The Porter-Cologne Act defines waters of the State as all surface and subsurface waters. The RWQCBs may issue permits (called Waste Discharge Requirements or WDRs) or may issue a waiver for a given application. In addition, the RWQCB recently started to implement a new regulatory program for all waters of the State.

On April 2, 2019, the State Water Resources Control Board (SWRCB) adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. The adopted definitions and procedure allow for the presence of hydric substrates as a criterion for wetland identification (not just wetland soils) and wetland hydrology for an area devoid of vegetation (less than 5% cover) to be considered a wetland. Waters of the State are typically delineated based on the ordinary high-water mark (OHWM) in the field as defined by federal guidelines (SWRCB, 2022; see also USACE, 2008) as the limits of jurisdiction. However, waters of the State include isolated waters and need not have downstream surface connection to federally jurisdictional waters. The new program uses the soils, hydrology, and vegetation criteria to identify wetlands, but may define certain unvegetated sites (e.g., mud flats or playas) as wetlands based on only the soils and hydrology criteria. The definition of "waters of the State" excludes certain types of artificial wetlands greater than or equal to one acre in size, including, but not limited to, those constructed and currently used and maintained for "detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program" (SWRCB, 2022). The project site is within the jurisdictional boundaries of the Santa Ana RWQCB.

Section 401 of the CWA requires that:

> *…any applicant for a Federal permit for activities that involve a discharge to "waters of the State," shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act.*

Therefore, before the USACE may issue a Section 404 permit, a permittee must apply for and receive a Section 401 Water Quality Certification from the RQWCB, Santa Ana Region. The RWQCB may add conditions to their certification to remove or mitigate potential impacts to water quality standards.

4.3 Section 1602 of the California Fish and Game Code

Section 1602 of the California Fish and Game Code requires any person, State or local governmental agency, or public utility which proposes a project that will substantially divert or obstruct the natural flow

or substantially change the bed, channel, or bank of any river, stream, or lake, or use materials from a streambed, or result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake, to first notify the CDFW of the proposed project. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. Based on the notification materials submitted, the CDFW will determine if the proposed project may impact fish or wildlife resources.

If the CDFW determines that a proposed project may substantially adversely affect existing fish or wildlife resources, a Lake or Streambed Alteration Agreement (SAA) will be required. A completed California Environmental Quality Act (CEQA) document must be submitted to CDFW before a SAA will be issued.

5.0 Waters and Wetlands Delineation Methodology

The assessment of jurisdictional wetlands, waters of the United States (U.S.), waters of the State, and other jurisdictional habitats was conducted by Aspen biologists Justin Wood and Jacob Aragon on June 24 and August 15, 2022. Prior to conducting the field assessment Wood reviewed current and historic aerial photographs, the San Bernardino County Soil Survey (NRCS, 2022), and the local and state hydric soil list (NRCS, 2022) to evaluate the potential active channels and wetland features in the project site. Wood also reviewed the National Wetland Inventory (USFWS, 2022) and the 2016 wetland plant ratings in the National Wetland Plant List (Lichvar et al., 2016).

Site maps were generated with available aerial photographs and potentially jurisdictional features were identified and marked with lines and global positioning system (GPS) coordinates to assist in field verification. During the field assessment, vegetation and hydrology were mapped using an Arrow GPS unit and identified on aerial photographs (Figure 4, Attachment 1). Field maps were digitized using Global Information System (GIS) and total state and federal jurisdictional areas were calculated. Representative site photos were captured during the survey and are included in this report (see Attachment 2).

5.1 Wetland Waters of the U.S.

Federal wetlands, where present, were delineated using the USACE Wetland Delineation Manual (1987) and the Arid West Supplement (2008) based on three wetland parameters: hydrophytic vegetation, wetland hydrology, and hydric soils (USACE, 1987, 2008). The project site had very few locations that had a potential to support federal wetlands, therefore the biologists did not sample along transects but instead focused on the four drainage features directly. In addition, an assessment of downstream connectivity was also completed to determine if features within the project site connect with downstream TNW.

5.2 Non-wetland Waters of the U.S.

Jurisdictional non-wetland waters of the U.S. were delineated based on the limits of the ordinary high-water mark (OHWM), where present, as determined by changes in physical and biological features, such as bank erosion, deposited vegetation or debris, and vegetative characteristics. In the Arid West region, the Ordinary High-Water Mark (OHWM) indicates the limits of high flows in low- to moderate-discharge events (USACE, 2008). See Tables 1-1 and 1-2 in Attachment 3 (Federal Non-Wetland and Wetland Waters Indicator Information Potential Geomorphic and Vegetative Indicators of Ordinary High-Water Marks for

the Arid West) for a list of key physical features used for determining the OHWM identified by the arid west manual. OHWM datasheets were completed at two locations within the project site, using the methods described in Curtis and Lichvar (2010).

5.3 RWQCB Waters of the State

RWQCB waters of the state generally match the limits of the waters of the U.S. described above. The RWQCB waters of the state are generally delineated based on the limits of the OHWM as determined by changes in physical and biological features, such as bank erosion, deposited vegetation or debris, and vegetative characteristics. If waters of the U.S. are not present, the RWQCB may exert jurisdiction that matches the jurisdiction of CDFW, under Porter Cologne Water Quality Control Act. The Santa Ana RWQCB (SARWQCB) is the state agency responsible for regulating waters of the State throughout the project site. In addition, the RWQCB can take jurisdiction over wetlands of the State if the area has hydric substrates and wetland hydrology present, as described above for Wetlands Waters of the U.S.

5.4 CDFW Jurisdictional Waters

CDFW jurisdiction was delineated to the tops of the channel banks or to the edge of the adjacent riparian vegetation, where present. CDFW jurisdictional streambeds were mapped to the top of the banks which was adjacent to upland vegetation throughout much of the project site. CDFW has jurisdiction over a larger area than the federal jurisdiction, therefore the total acreage of CDFW jurisdictional streambeds includes all federally jurisdictional waters of the U.S., where present, as well as additional adjacent state jurisdictional streambeds and vegetation.

6.0 Results

One category of jurisdictional feature was documented within the project site: CDFW jurisdictional streambeds (refer to Figure 4, Attachment 1). All four of the drainage features are not expected to fall under the jurisdiction of the USACE because drainage 1 experiences ephemeral flows and drainages 2, 3, and 4 largely lack downstream connectivity with TNW. None of the four human-made drainage features are expected to fall under the jurisdiction of the SARWQCB either due to their being located wholly within a human-made artificial stormwater management basin permitted by the Area-wide Urban Storm Water Runoff Management Program issued by the SARWQCB (SARWQCB, 2010). Table 4 and Figure 4 (Attachment 1) show locations and acreages of CDFW jurisdictional features within the project site. Attachment 4 also contains the Wetland Determination Data Forms for the Arid West Region and the Arid West Ephemeral and Intermittent Streams OHWM Datasheets that were completed during the assessment. Attachment 5 includes all plants observed on the project site and includes their wetland indicator status.

Table 4. Jurisdictional Waters and Wetlands within the Project Site

	USACE Waters of the U.S.		SARWQCB Waters of the State					
Drainage Number	Area (acres)	Length (ft.)	Area (acres)	Length (ft.)	Data Sheet Number	Cowardin Classification[1]	Dominant Vegetation[1]	CDFW Jurisdictional Streambeds (acres)
1	--	--	--	--	Wetland 1 & OHWM 1	R4SB	Cattail marsh	0.08
2	--	--	--	--	N/A	R4SB	Cattail marsh	0.02
3	--	--	--	--	N/A	R4SB	Cattail marsh	1.32

Table 4. Jurisdictional Waters and Wetlands within the Project Site

Drainage Number	USACE Waters of the U.S. Area (acres)	USACE Waters of the U.S. Length (ft.)	SARWQCB Waters of the State Area (acres)	SARWQCB Waters of the State Length (ft.)	Data Sheet Number	Cowardin Classification[1]	Dominant Vegetation[1]	CDFW Jurisdictional Streambeds (acres)
4	--	--	--	--	N/A	R4SB	Cattail marsh	1.48
Total	--	--	--	--	**--**	**--**	**--**	**2.90**

Note:
[1] = The dominant Cowardin Classification and vegetation type was used for each drainage.

- **Drainage 1** – Drainage 1 is a small, isolated human-made drainage feature located at the west end of the project site near a storm drain intake. Drainage 1 was mapped as a CDFW Streambed. Drainage 1 is mapped as cattail marsh and is dominated by species such as castor bean (*Ricinus communis*), jungle grass (*Echinochloa colona*), umbrella sedge (*Cyperus involucratus*), and Dallis grass. At the time of the survey, drainage 1 was completely dry but did have a defined OHWM. Although drainage 1 has downstream connectivity to TNW, it was not mapped as USACE waters of the U.S. as it appears to ephemerally convey collected stormwater sheet flow from the immediately adjacent uplands during storm events. It also does not appear to receive flows from the remainder of the project site to the east. Drainage 1 is mapped as freshwater emergent wetland (PEM1Cx) in the National Wetland Inventory (USFWS, 2022).

- **Drainage 2** – Drainage 2 is small, incised isolated human-made drainage feature located just east of drainage 1. Drainage 2 was mapped as a CDFW Streambed. Drainage 2 is mapped as cattail marsh and is dominated by species such as marsh purslane, Spanish sunflower, and willow-herb (*Epilobium ciliatum*). It receives flows from a concrete-lined swale to the north of the drainage that receives runoff from the adjacent golf course. At the time of the survey, drainage 2 had no surface water present but the soil was wet. The drainage was approximately two feet lower the surrounding basin floor, creating an OHWM, however flows do not appear to fill drainage 2 to the point of allowing surface connectivity with drainage 1 to the west. Drainage 2 is mapped as freshwater emergent wetland (PEM1Cx) in the National Wetland Inventory (USFWS, 2022).

- **Drainage 3** – Drainage 3 is larger isolated drainage feature located near the center of the project site. Drainage 3 was also mapped as a CDFW Streambed. Drainage 3 is largely mapped as cattail marsh and is dominated by species such as broadleaf cattail (*Typha latifolia*), water speedwell (*Veronica anagallis-aquatica*), common plantain (*Plantago major*), and annual sunflower (*Helianthus annuus*). It receives flows from two concrete-lined swales to the north that receives runoff from the adjacent golf course. At the time of the survey, drainage 3 had no surface water present but the soil was wet. An earthen berm that is present in the basin floor, prevents flows from drainage 3 to flow west towards drainages 1 and 2. Drainage 3 is primarily mapped as freshwater emergent wetland (PEM1Cx) in the National Wetland Inventory (USFWS, 2022).

- **Drainage 4** – Drainage 4 is larger isolated drainage feature located at the east end of the project site. Drainage 4 was also mapped as a CDFW Streambed. Drainage 4 is largely mapped as cattail marsh and is dominated by species such as broadleaf cattail, water speedwell, spearmint (*Mentha spicata*), and annual sunflower. It receives flows from three concrete-lined swales, one to the northeast, one to the southeast, and one to the north. These swales all convey runoff from the surrounding golf courses and residential development. At the time of the survey, drainage 4 had no surface water present but the soil was wet. High ground in the basin floor, prevents flows from

drainage 4 to flow west towards drainages 1, 2, and 3. Drainage 4 is primarily mapped as freshwater emergent wetland (PEM1Cx) in the National Wetland Inventory (USFWS, 2022).

6.1 Wetland Waters of the U.S.

Based on the field assessment, including the wetland sample locations, no federal wetlands were determined to be present within the project site (see Figure 4, Attachment 1). This was based on a lack of any field indicators. The Wetland Determination Data Forms for the Arid West Region are included in Attachment 4.

6.2 Non-wetland Waters of the U.S.

Based on this assessment of OHWMs and Aspen's professional opinion, no Waters of the U.S. were determined to be present within the project site (see Figure 4, Attachment 1). This was based on the ephemeral nature of drainage 1 and the lack of downstream connectivity to TNW. The Arid West Ephemeral and Intermittent Streams OHWM Datasheets are included in Attachment 4.

6.3 RWQCB Waters of the State

Based on the field assessment and Aspen's professional opinion, no waters of the State were determined to be present within the project site (see Table 4 and Figure 4 of Attachment 1). This was based on the locations of each drainage being wholly within the permitted stormwater management basin. No wetlands of the State were identified within the project site.

6.4 CDFW Jurisdictional Waters

Based on this assessment and Aspen's professional opinion, approximately 2.90 acres within the project site meet the definition of CDFW jurisdictional streambeds and adjacent jurisdictional vegetation (see Table 4 and Figure 4 of Attachment 1). This includes drainages 1, 2, 3, and 4 as discussed above. This conclusion is primarily based on the presence of bed and bank and riparian vegetation. Of the 2.90 acres of CDFW jurisdictional streambeds, 1.44 acres are within the development area and will be impacted by the project while the remaining 1.47 acres are within the conservation area.

7.0 Summary and Conclusions

The project site includes approximately 2.90 acres of CDFW jurisdictional streambeds and adjacent jurisdictional vegetation were mapped based on the presence of clearly defined bed and banks and field observations.

The conclusions presented above represent Aspen's professional opinion based on our knowledge and experience with the USACE, SARWQCB, and CDFW, including the applicable regulatory guidance documents and manuals. However, the USACE, SARWQCB, and CDFW have final authority in determining the status and presence of jurisdictional wetlands and waters and the extent of their boundaries.

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Attachment 1 – Figures

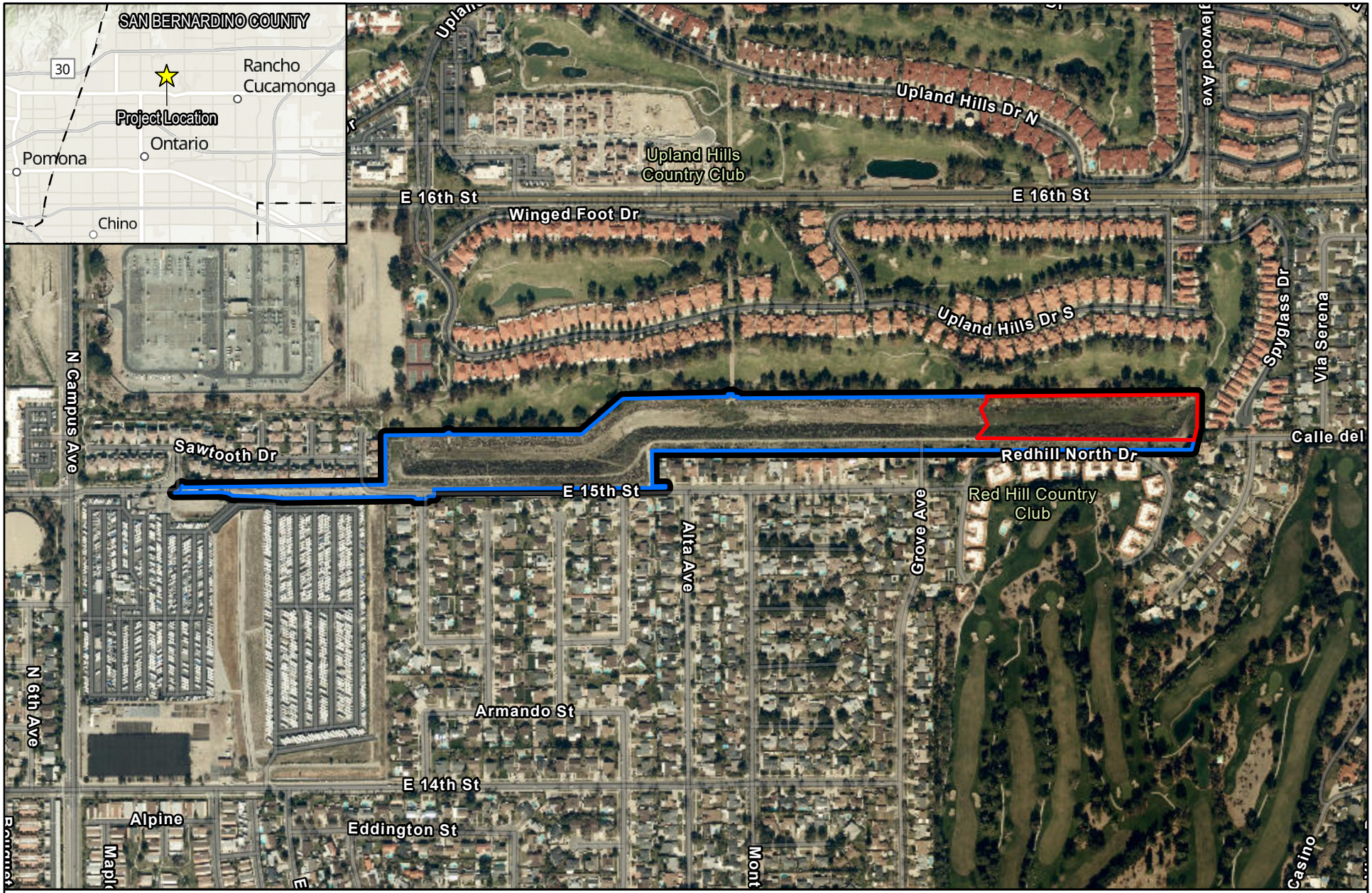


Figure 1

Project Overview

Sources: Aspen, 2022; County of San Bernardino, 2022; Esri, 2022; The Colonies Partners, LP, 2022.

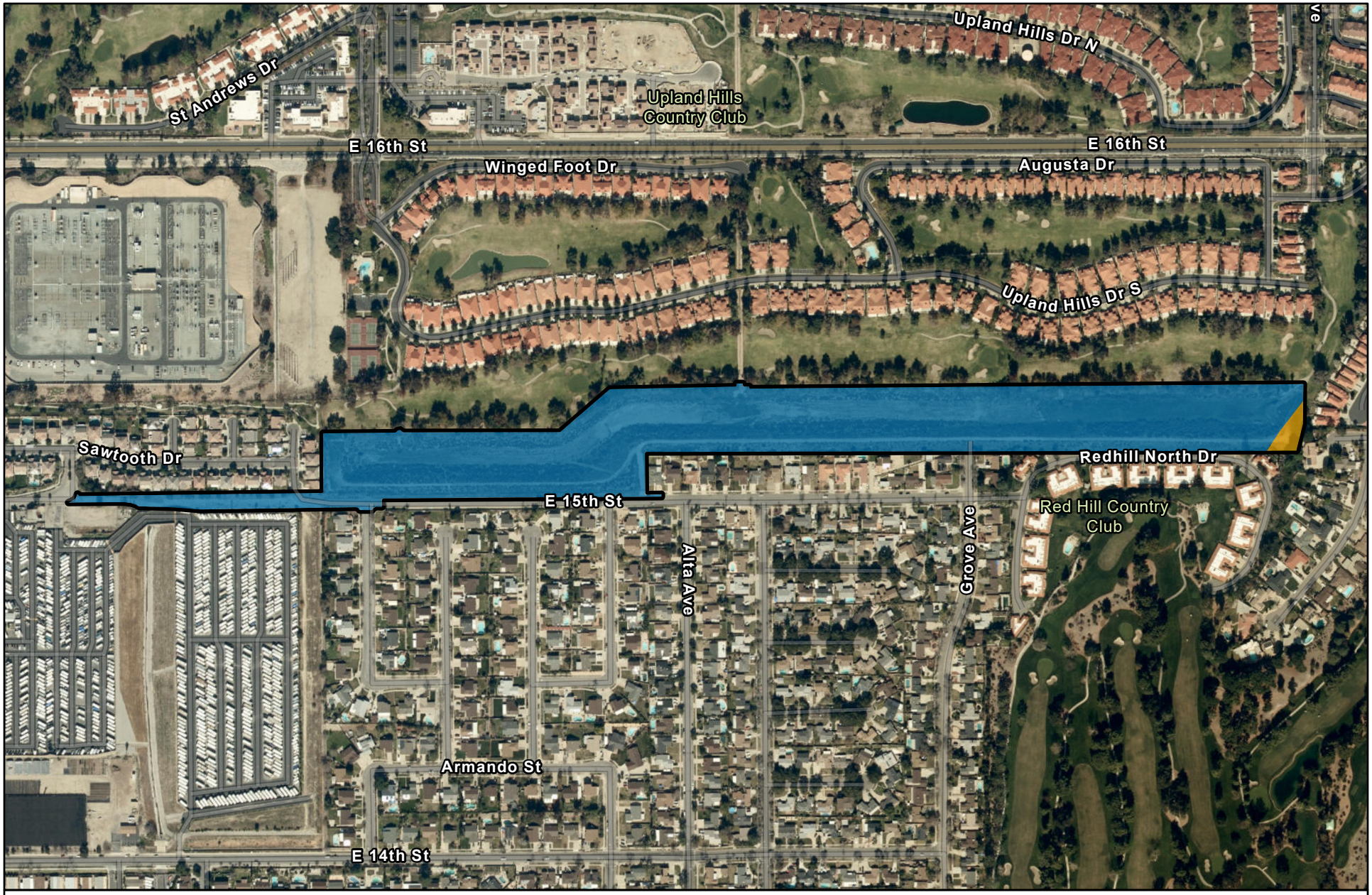


Figure 2

Soils

Sources: Aspen, 2022; County of San Bernardino, 2022; Esri, 2022; NRCS, 2022; The Colonies Partners, LP, 2022.

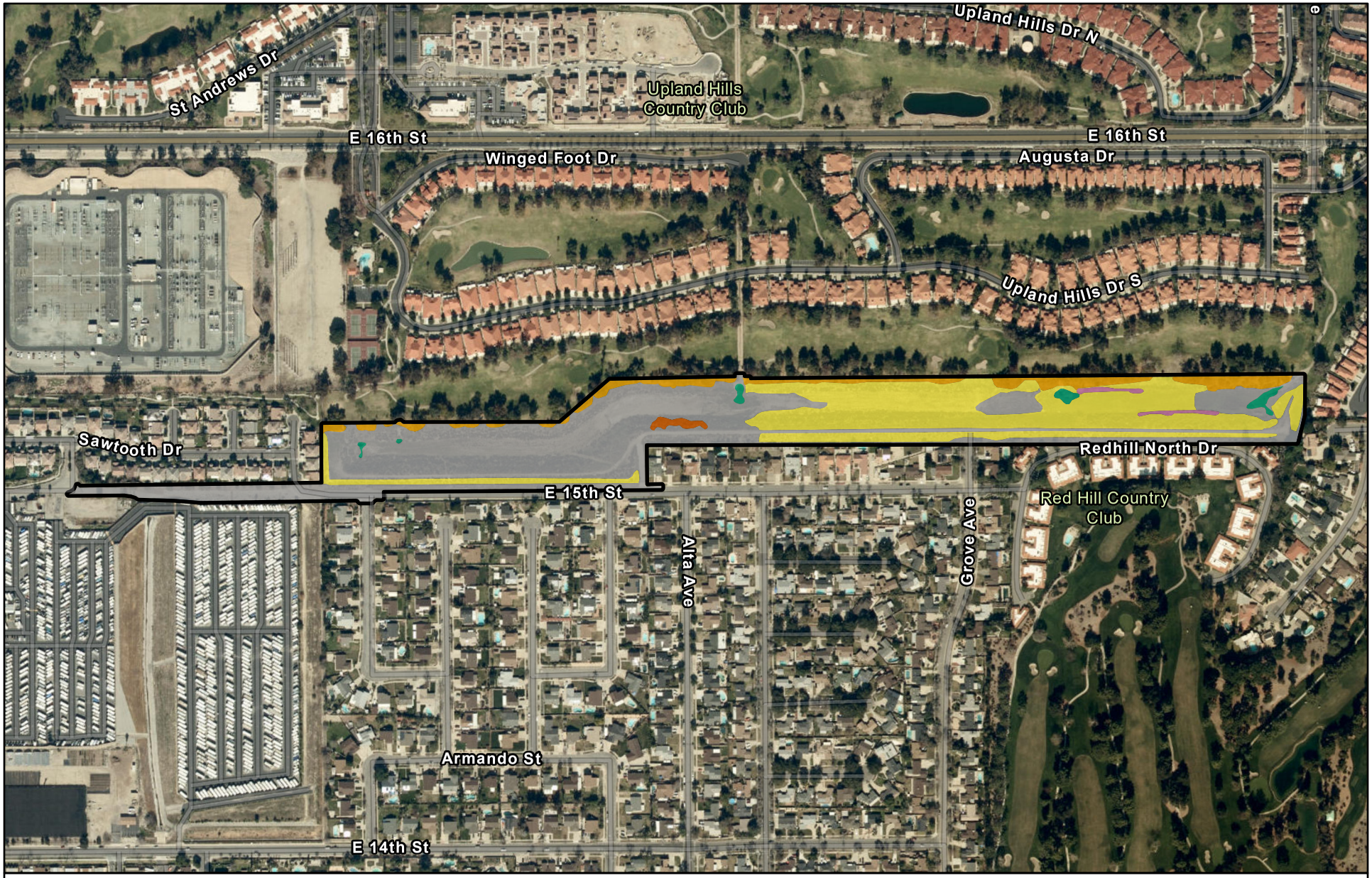


Figure 3

Vegetation and Land Cover

Sources: Aspen, 2022; County of San Bernardino, 2022; Esri, 2022; The Colonies Partners, LP, 2022.

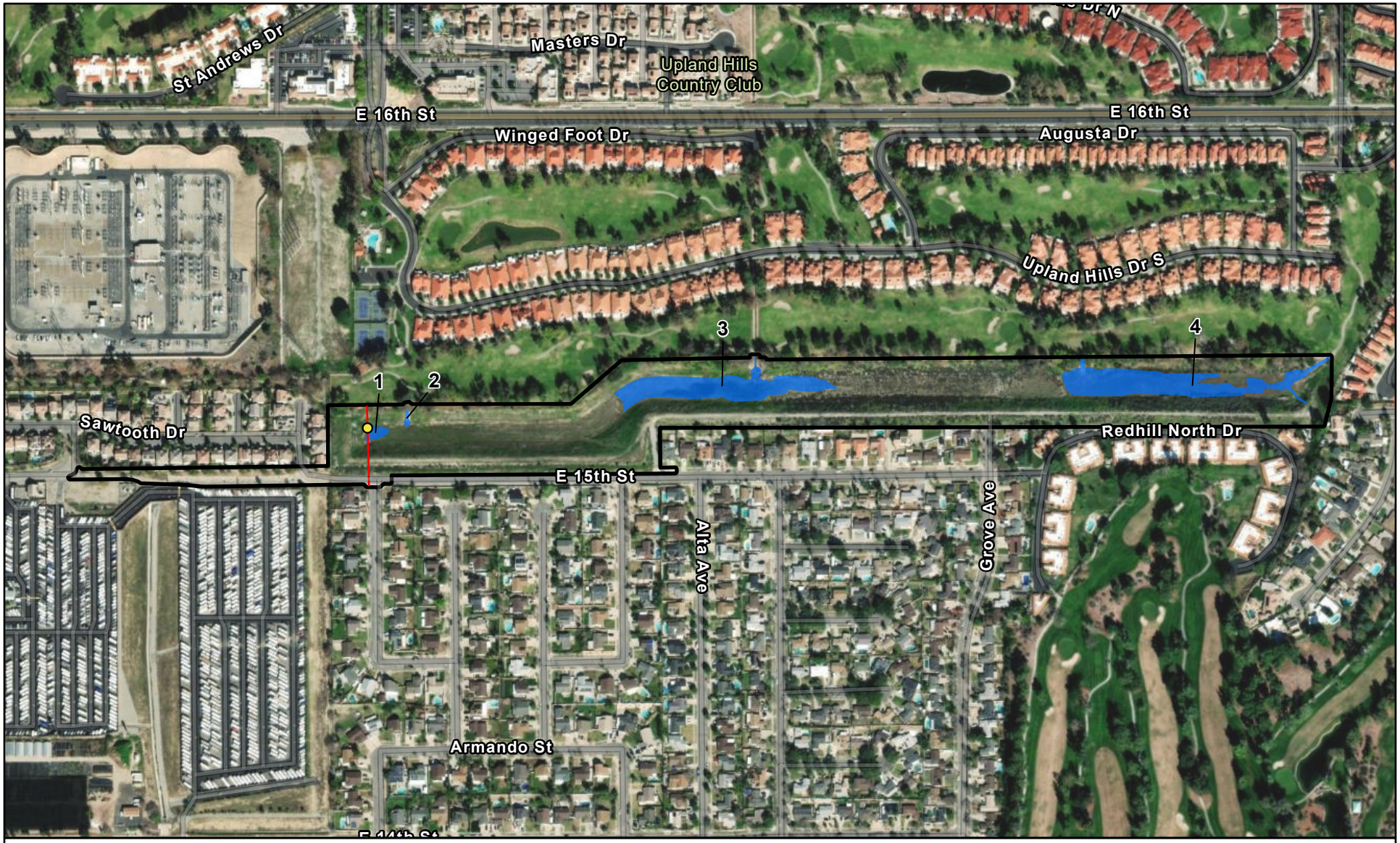


Figure 4

Jurisdictional Resources

Sources: Aspen, 2022; County of San Bernardino, 2022; Esri, 2022; The Colonies Partners, LP, 2022.

Attachment 2 – Photo Exhibit

Photo 1: East-facing view of Drainage 1 and wetland vegetation within the Development Area.

Photo 2: South-facing view of Drainage 1 near the storm drain inlets within the Development Area.

Photo 3: North-facing view of Drainage 2 within the Development Area.

Photo 4: Northwest-facing overview of the Development Area showing Drainages 1 and 2, in the western portion of the Project Site.

Photo 5: Close-up view of dense cattail marshes within Drainage 3, within the Development Area.

Photo 6: Northeast-facing overview of cattail marshes in Drainage 3, within the Development Area.

Photo 7: Northeast-facing overview of cattail marshes at one of the side drainages within the Conservation Area.

Photo 8: Close-up view of wetland vegetation in Drainage 3 within the Conservation Area.

Attachment 3 – Federal Non-Wetland and Wetland Waters Indicator Information

Table 1. Potential Geomorphic Indicators of Ordinary High-Water Marks for the Arid West

(A) Below OHW	(B) At OHW	(C) Above OHW
1. In-stream dunes	1. Valley flat	1. Desert pavement
2. Crested ripples	2. Active floodplain	2. Rock varnish
3. Flaser bedding	3. Benches: low, mid, most prominent	3. Clast weathering
4. Harrow marks	4. Highest surface of channel bars	4. Salt splitting
5. Gravel sheets to rippled sands	5. Top of point bars	5. Carbonate etching
6. Meander bars	6. Break in bank slope	6. Depositional topography
7. Sand tongues	7. Upper limit of sand-sized particles	7. Caliche rubble
8. Muddy point bars	8. Change in particle size distribution	8. Soil development
9. Long gravel bars	9. Staining of rocks	9. Surface color/tone
10. Cobble bars behind obstructions	10. Exposed root hairs below intact soil layer	10. Drainage development
11. Scour holes downstream of obstructions	11. Silt deposits	11. Surface relief
12. Obstacle marks	12. Litter (organic debris, small twigs and leaves)	12. Surface rounding
13. Stepped-bed morphology in gravel	13. Drift (organic debris, larger than twigs)	
14. Narrow berms and levees		
15. Streaming lineations		
16. Desiccation/mud cracks		
17. Armored mud balls		
18. Knick Points		

Table 2. Potential Vegetation Indicators of Ordinary High-Water Marks for the Arid West

	(D) Below OHW	(E) At OHW	(F) Above OHW
Hydroriparian indicators	1. Herbaceous marsh species 2. Pioneer tree seedlings 3. Sparse, low vegetation 4. Annual herbs, hydromesic ruderals 5. Perennial herbs, hydromesic clonals	1. Annual herbs, hydromesic ruderals 2. Perennial herbs, hydromesic clonals 3. Pioneer tree seedlings 4. Pioneer tree saplings	1. Annual herbs, xeric ruderals 2. Perennial herbs, non-clonal 3. Perennial herbs, clonal and non-clonal co-dominant 4. Mature pioneer trees, no young trees 5. Mature pioneer trees w/upland species 6. Late-successional species
Mesoriparian Indicators	6. Pioneer tree seedlings 7. Sparse, low vegetation 8. Pioneer tree saplings 9. Xeroriparian species	5. Sparse, low vegetation annual herbs, hydromesic 6. ruderals 7. Perennial herbs, hydromesic clonals 8. Pioneer tree seedlings 9. Pioneer tree saplings 10. Xeroriparian species 11. Annual herbs, xeric ruderals	7. Xeroriparian species 8. Annual herbs, xeric ruderals 9. Perennial herbs, non-clonal 10. Perennial herbs, clonal and non-clonal codominant 11. Mature pioneer trees, no young trees 12. Mature pioneer trees, xeric understory 13. Mature pioneer trees w/upland species 14. Late-successional species 15. Upland species
Xeroriparian indicators	10. Sparse, low vegetation 11. Xeroriparian species 12. Annual herbs, xeric ruderals	12. Sparse, low vegetation 13. Xeroriparian species 14. Annual herbs, xeric ruderals	16. Annual herbs, xeric ruderals 17. Mature pioneer trees w/upland species 18. Upland species

Table 3. Summary of Wetland Indicator Status

Category		Probability
Obligate Wetland	OBL	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland	FACW	Usually occur in wetlands (estimated probability of 67–99%)
Facultative	FAC	Equally likely to occur in wetlands/non-wetlands (estimated probability of 34–66%)
Facultative Upland	FACU	Usually occur in non-wetlands (estimated probability 67–99%)
Obligate Upland	UPL	Almost always occur in non-wetlands (estimated probability >99%)
Non-Indicator	NI	No indicator status has been assigned

Source: Reed, 1988

Table 4. Wetland Hydrology Indicators*

Primary Indicators	Secondary Indicators
Watermarks	Oxidized Rhizospheres Associated with Living Roots
Water-Borne Sediment Deposits	FAC-Neutral Test
Drift Lines	Water-Stained Leaves
Drainage Patterns Within Wetlands	Local Soil Survey Data

*Table adapted from 1987 USACE Manual and Related Guidance Documents.

Table 5. Wetland Hydrology Indicators for the Arid West*

	Primary Indicator (any one indicator is sufficient to determine that wetland hydrology is present)	Secondary Indicator (two or more indicators are required to determine that wetland hydrology is present)
Group A – Observation of Surface Water or Saturated Soils		
A1 – Surface Water	X	
A2 – High Water Table	X	
A3 – Saturation	X	
Group B – Evidence of Recent Inundation		
B1 – Water Marks	**X** (Non-riverine)	**X** (Riverine)
B2 – Sediment Deposits	**X** (Non-riverine)	**X** (Riverine)
B3 – Drift Deposits	**X** (Non-riverine)	**X** (Riverine)
B6 – Surface Soil Cracks	X	
B7 – Inundation Visible on Aerial Imagery	X	
B9 –Water-Stained Leaves	X	
B10 – Drainage	X	X
B11 – Salt Crust	X	
B12 – Biotic Crust	X	
B13 – Aquatic Invertebrates	X	
Group C – Evidence of Current or Recent Soil Saturation		
C1 – Hydrogen Sulfide Odor	X	
C2 – Dry-Season Water Table		X
C3 – Oxidized Rhizospheres along Living Roots	X	
C4 – Presence of Reduced Iron	X	
C6 – Recent Iron Reduction in Tilled Soils	X	

Table 5. Wetland Hydrology Indicators for the Arid West*

	Primary Indicator (any one indicator is sufficient to determine that wetland hydrology is present)	Secondary Indicator (two or more indicators are required to determine that wetland hydrology is present)
C7 – Thin Muck Surface	X	
C8 – Crayfish Burrows		X
C9 – Saturation Visible on Aerial Imagery		X
Group D – Evidence from other Site Conditions or Data		
D3 – Shallow Aquitard		X
D5 – FAC-Neutral Test		X

*Table adapted from Regional Supplement to the USACE of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0.

Table 6. Field Indicators of Hydric Soil Conditions*

1. Indicators of Historical Hydric Soil Conditions	2. Indicators of Current Hydric Soil Conditions
a. Histosols b. Histic epipedons; c. Soil colors (e.g., gleyed or low-chroma colors, soils with bright mottles (Redoximorphic features) and/or depleted soil matrix d. High organic content in surface of sandy soils e. Organic streaking in sandy soils f. Iron and manganese concretions g. Soil listed on county hydric soils list	a. Aquic or peraquic moisture regime (inundation and/or soil saturation for *7 continuous days) b. Reducing soil conditions (inundation and/or soil saturation for *7 continuous days) c. Sulfidic material (rotten egg smell)

*Table adapted from 1987 USACE Manual and Related Guidance Documents.

Table 7. Hydric Soil Indicators for the Arid West*

Hydric Soil Indicators			Hydric Soil Indicators for Problem Soils**
All Soils	Sandy Soils	Loamy and Clay Soils	
A1 – Histosol	S1 – Sandy Mucky Mineral	F1 – Loamy Mucky Mineral	A9 – 1 cm Muck
A2 – Histic Epipedon	S4 – Sandy Gleyed Matrix	F2 – Loamy Gleyed Matrix	A10 – 2 cm Muck
A3 – Black Histic	S5 – Sandy Redox	F3 – Depleted Matrix	F18 – Reduced Verti
A4 – Hydrogen Sulfide	S6 – Stripped Matrix	F6 – Redox Dark Surface	TF2 – Red Parent Material
A5 – Stratified Layers	—	F7 – Depleted Dark Surface	Other (See Section 5 of Regional Supplement, Version 2.0)
A9 – 1 cm Muck	—	F8 – Redox Depressions	—
A11 – Depleted Below Dark Surface	—	F9 – Vernal Pools	—
A12 – Thick Dark Surface	—	—	—

* Table adapted from Regional Supplement to the USACE of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0.

** Indicators of hydrophytic vegetation and wetland hydrology must be present

Attachment 4 – Arid West OHWM and Wetland Determination Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Villa Serena (15th Street Basin) City/County: Upland/San Bernardino County Sampling Date: 6/24/2022

Applicant/Owner: Diversified Pacific/City of Upland State: CA Sampling Point: 1

Investigator(s): Justin Wood and Jacob Aragon Section, Township, Range: S23, T1S, R5W

Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): LRR C-19 Lat: 34° 7'6.40"N Long: 117°38'11.21"W Datum: WGS84

Soil Map Unit Name: Soboba stony loamy sand, 2 to 9 percent slopes NWI classification: PEM1Cx

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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 2 m x 2m)			
1. Baccharis salicifolia	5	Yes	FAC
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Cyperus involucratus	35	Yes	FACW
2. Ricinus communis	25	Yes	FACU
3. Typha latifolia	5	No	
4. Echinochloa colona	5	No	
5.			
6.			
7.			
8.			
	60 = 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: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species 35	x 2 =	70
FAC species 5	x 3 =	15
FACU species 25	x 4 =	75
UPL species	x 5 =	
Column Totals: 65 (A)		160 (B)

Prevalence Index = B/A = 2.46

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 _____

Remarks:

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 5/2	100					Sandy loan	No odor

[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 ✔

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**)
- ___ 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 _____ Depth (inches): _____

Water Table Present? Yes ✔ No _____ Depth (inches): 4.0

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

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

Surface water present about one foot away from sample location.

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Villa Serena / 15th Street Basin
Date: 6/24/2022
Time: 0930
Project Number: 3572.001
Town: Upland
State: CA
Stream: 15th Street Basin
Photo begin file#:
Photo end file#:
Investigator(s): Justin Wood and Jacob Brazen

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

Y ☒ / N ☐ Is the site significantly disturbed?

Location Details:
West end of 15th Street Basin

Projection: **Datum:** WGS84
Coordinates: 34°07'06.4" N 117°38'11.2" W

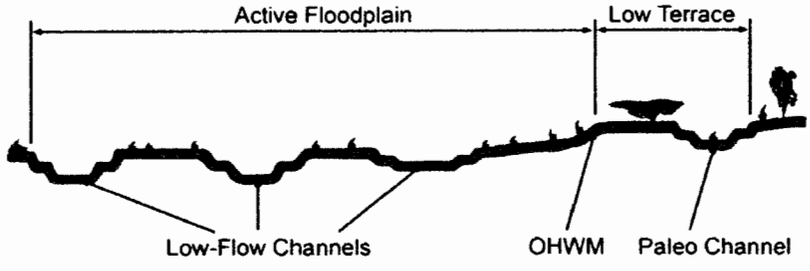
Potential anthropogenic influences on the channel system:
Large berm on south side of basin constructed many years ago. Natural upstream flows blocked, only runoff currently enters basin

Brief site description:
15th Street Basin. Rounded basin surrounded by development

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 5/1994 - 6/2021
- ☒ 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

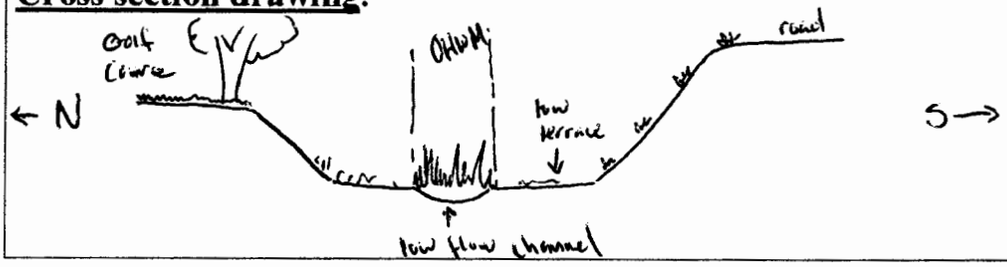


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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
   - ☒ GPS
   - ☐ Digitized on computer
   - ☐ Other:

Project ID: 3572.001 **Cross section ID:** 1 **Date:** 6/24/2022 **Time:** 0930

Cross section drawing:



OHWM

GPS point: 34° 07' 06.4" N, 117° 38' 11.2" W

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: 34° 07' 06.5" N, 117° 38' 11.1 W

Characteristics of the floodplain unit:

Average sediment texture: Sandy loam

Total veg cover: ____ % Tree: ____ % Shrub: 5 % Herb: 20 %

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:

Project ID: 3572.001 **Cross section ID:** 1 **Date:** 6/24/2022 **Time:** 0930

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

GPS point: 34° 07' 06.4" N, 117° 38' 113" W

Characteristics of the floodplain unit:

Average sediment texture: Sandy loam

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

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:

Very dense wetland vegetation near drain entrance.

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

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: ____ % Tree: ____ % Shrub: ____ % Herb: ____ %

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:

Attachment 5 – Observed Plant Species List and Wetland Indicator

Attachment 5. Project Species List		
Latin Name	**Common Name**	**Wetland Indicator Status**
VASCULAR PLANTS		
DICOTYLEDONS		
ADOXACEAE	ELDERBERRY FAMILY	
Sambucus nigra ssp. *caerulea*	Blue elderberry	FACU
ANACARDIACEAE	SUMAC FAMILY	
Rhus aromatica	Fragrant sumac	FACU
Toxicodendron diversilobum	Poison oak	FACU
APOCYNACEAE	DOGBANE FAMILY	
* *Nerium oleander*	Oleander	UPL
ASTERACEAE	ASTER FAMILY	
Ambrosia acanthicarpa	Annual sandbur	UPL
Artemisia californica	California sagebrush	UPL
Baccharis salicifolia	Mulefat	FAC
Baccharis sarothroides	Broom baccharis	FACU
* *Centaurea melitensis*	Tocalote	UPL
Ericameria pinifolia	Pinebush	UPL
Helianthus annuus	Annual sunflower	FACU
* *Helminthotheca echioides*	Bristly ox-tongue	FAC
Heterotheca grandiflora	Telegraphweed	UPL
Lepidospartum squamatum	Scalebroom	FACU
* *Logfia gallica*	Narrowleaf cottonrose	UPL
Pseudognaphalium canescens	Wright's cudweed	FACU
* *Pulicaria paludosa*	Spanish false fleabane	FAC
Senecio flaccidus var. *douglasii*	Bush senecio	UPL
* *Sonchus asper* ssp. *asper*	Prickly sow thistle	FAC
Xanthium strumarium	Cocklebur	FAC
BORAGINACEAE	BORAGE FAMILY	
Eriodictyon trichocalyx	Hairy yerba santa	UPL
Pectocarya linearis ssp. *ferocula*	Slender comb seed	UPL
BRASSICACEAE	MUSTARD FAMILY	
* *Brassica fruticulosa*	Mediterranean cabbage	UPL
* *Hirschfeldia incana*	Short-pod mustard	UPL
Nasturtium officinale	Watercress	OBL
* *Raphanus sativus*	Jointed charlock	UPL
* *Sisymbrium orientale*	Indian hedge mustard	UPL
CACTACEAE	CACTUS FAMILY	
Opuntia littoralis	Prickly pear	UPL
CHENOPODIACEAE	GOOSEFOOT FAMILY	
* *Dysphania ambrosioides*	Mexican tea	FAC
* *Salsola tragus*	Russian thistle	FACU
CISTACEAE	ROCKROSE FAMILY	
Crocanthemum scoparium var. *scoparium*	Peak rushrose	UPL
CONVOLVULACEAE	MORNINGGLORY FAMILY	
Cuscuta sp.	Unid. dodder	UPL
CUCURBITACEAE	GOURD FAMILY	
Cucurbita foetidissima	Calabazilla	UPL
EUPHORBIACEAE	SPURGE FAMILY	
Croton californicus	Desert croton	UPL
Croton setiger	Turkey-mulleion	UPL
* *Euphorbia peplus*	Petty spurge	UPL
Euphorbia serpillifolia	Thyme-leafed spurge	UPL

Attachment 5. Project Species List		
Latin Name	**Common Name**	**Wetland Indicator Status**
* *Ricinus communis*	Castor bean	FACU
FABACEAE	PEA FAMILY	
Acmispon glaber	Deerweed	UPL
Astragalus pomonensis	Pomona milkvetch	UPL
* *Melilotus alba*	White sweet-clover	UPL
FAGACEAE	BEECH FAMILY	
Quercus agrifolia	Coast live oak	UPL
GROSSULARIACEAE	CURRANT FAMILY	
Ribes aureum	Golden currant	FAC
HYDROPHYLLACEAE	WATERLEAF FAMILY	
Emmenanthe penduliflora	Whispering bells	UPL
Phacelia ramosissima	Branching phacelia	FACU
LAMIACEAE	MINT FAMILY	
* *Marrubium vulgare*	Common horehound	FACU
* *Mentha spicata*	Spearmint	UPL
LYTHRACEAE	MYRTLE FAMILY	
Lagerstroemia indica	Crepe myrtle	UPL
MORACEAE	MULBERRY FAMILY	
* *Morus alba*	White mulberry	FACU
MYRSINACEAE	MYRSINE FAMILY	
* *Lysimachia arvensis*	Scarlet pimpernel	FAC
MYRTACEAE	EUCALYPTUS FAMILY	
* *Eucalyptus* sp.	Ornamental eucalyptus	
OLEACEAE	OLIVE FAMILY	
Fraxinus uhdei	Shamel ash	UPL
ONAGRACEAE	EVENING PRIMROSE FAMILY	
Camissoniopsis bistorta	California sun cup	UPL
Epilobium brachycarpum	Annual fireweed	FAC
Epilobium ciliatum	Willow-herb	FACW
Ludwigia peploides	Floating water primrose	OBL
PLANTAGINACEAE	PLANTAIN FAMILY	
Penstemon spectabilis	Showy penstemon	UPL
* *Plantago major*	Common plantain	FAC
* *Veronica anagallis-aquatica*	Water speedwell	OBL
PLANTANACEAE	SYCAMORE FAMILY	
Platanus racemosa	California sycamore	FAC
* *Platanus ×hispanica*	London plane tree	UPL
PHRYMACEAE	LOPSEED FAMILY	
Mimulus guttatus	Seep monkeyflower	OBL
POLEMONIACEAE	PHLOX FAMILY	
Navarretia hamata	Hooked navarretia	UPL
POLYGONACEAE	BUCKWHEAT FAMILY	
Eriogonum fasciculatum	California buckwheat	UPL
* *Rumex crispus*	Curly dock	FAC
PORTULACAEAE	PURSLANE FAMILY	
* *Portulaca oleraceae*	Common purslane	UPL
RHAMNACEAE	BUCKTHORN FAMILY	
Frangula californica	California coffeeberry	UPL
ROSACEAE	ROSE FAMILY	
Cercocarpus betuloides	Birch leaf mountain mahogany	UPL
SALICACEAE	WILLOW FAMILY	

Attachment 5. Project Species List

Latin Name	Common Name	Wetland Indicator Status
Salix exigua	Narrow-leaf willow	FACW
Salix goodingii	Gooding's black willow	FACW
SAPINDACEAE	SOAPBERRY FAMILY	
* *Koelreuteria bipinnata*	Goldenrain tree	UPL
SOLANACEAE	NIGHTSHADE FAMILY	
Datura wrightii	Jimsonweed	UPL
* *Nicotiana glauca*	Tree tobacco	FAC
ULMACEAE	ELM FAMILY	
* *Ulmus parvifolia*	Chinese elm	UPL
MONOCOTYLEDONS		
ARECACEAE	PALM FAMILY	
* *Washingtonia filifera*	California fan palm	FAC
CYPERACEAE	SEDGE FAMILY	
Carex sp.	Unid. sedge	
* *Cyperus involucratus*	Umbrella sedge	FACW
LILIACEAE	LILY FAMILY	
Asparagus asparagoides	African asparagus fern	UPL
POACEAE	GRASS FAMILY	
* *Bromus diandrus*	Ripgut brome	UPL
* *Bromus madritensis* ssp. *rubens*	Red brome	UPL
* *Cynodon dactylon*	Bermuda grass	FACU
* *Echinochloa colona*	Jungle rice	FAC
* *Ehrharta erecta*	Upright veldt grass	UPL
* *Festuca myuros*	Rattail sixweeks grass	UPL
* *Hordeum murinum*	Foxtail barley	FACU
* *Paspalum dilatatum*	Dallis grass	FAC
* *Polypogon monspeliensis*	Annual beard grass	FACW
* *Stipa miliacea*	Smilo grass	UPL
TYPHACEAE	CATTAIL FAMILY	
Typha latifolia	Broadleaf cattail	OBL

Species introduced to California are indicated by an asterisk. Special-status species are indicated by two asterisks. This list includes only species observed on the site. Others may have been overlooked or unidentifiable due to season (many plants are identifiable only in spring). Plants were identified using keys, descriptions, and illustrations in Baldwin et al (2012). Plant taxonomy and nomenclature generally follow Baldwin et al. (2012). Wetland Indicator Status are defined below. If a species had no status, if was assigned Upland, the least restrictive category.

Notes:

UPL (Upland):	Almost never occur in wetlands.
FACU (Facultative Upland):	Usually occur in non-wetlands but may occur in wetlands.
FAC (Facultative):	Occur in wetlands and non-wetlands.
FACW (Facultative Wetland):	Usually occur in wetlands but may occur in non-wetlands.
OBL (Obligate):	Almost always occur in wetlands.